September-October 1979

Infantry

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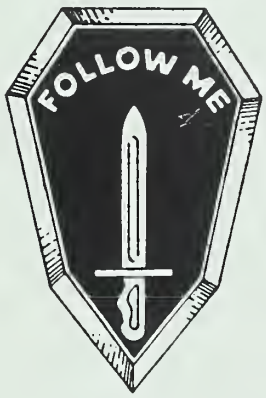

Infantry

September-October 1989 Volume 79, Number 5

DEPARTMENTS

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Commandant's NOTE

MAJOR GENERAL MICHAEL F. SPIGELMIRE Chief of Infantry

THE EXPERT INFANTRYMAN BADGE TEST

The Expert Infantryman Badge (EIB) was established in October 1943 to recognize the soldiers who had attained the high standards desired for infantrymen in World War II and to foster esprit de corps in infantry units.

The soldiers who have earned the badge over the ensuing years have had to prove that they could maintain their weapons and equipment under any circumstances. They have also had to be physically strong, mentally quick, and emotionally tough, and to be experts in the increasingly critical individual skills of modern-day infantry soldiers.

Today, the EIB test is a tool that leaders can use to measure our infantry soldiers' level of competence in the selected critical individual skills that they will need to succeed in combat.

The U.S. Army Infantry School has recently revised the EIB pamphlet to standardize the EIB test. The test now consists of 18 testing stations with a total of 33 possible individual tasks. The standards for these tasks are taken from the current Soldier's Manuals and related publications.

All eligible candidates must take the EIB test with a battalion-size unit or larger. Active Army infantrymen take the test in an outside location over a period of five consecutive days. National Guard and U.S. Army Reserve infantrymen who are not on active duty status must complete the test within three consecutive weekend drills.

A soldier must meet several prerequisites before he can even take the EIB test. He must:

- Be a volunteer.
- Be recommended by his unit commander.
- Be an active member of the U.S. Army, the U.S. Army Reserve, or the Army National Guard.
- Have a primary MOS in CMF 11 or CMF 18 (excluding 18D) if an enlisted soldier.
- Be identified as a 180A if a warrant officer, and be branched Infantry or Special Operations if a commissioned officer.
- Qualify as expert with the M16A1 or M16A2 rifle in accordance with FM 23-9.

The EIB program and test are outlined in detail in U.S. Army Infantry Center Pamphlet 350-6, dated April 1989, which was distributed to major commands in May 1989. A new EIB video tape was also distributed with the pamphlet to help infantry leaders and trainers set up and administer the test properly and to prepare their soldiers to compete more effectively and earn the badge. The tape supplements the pamphlet, demonstrates the proper procedures for conducting the test, and shows how each task is performed.

To prepare their soldiers for the test, commanders should make every effort to integrate the EIB tasks into their individual and collective training programs. They should place special emphasis on sustained physical fitness and land navigation training.

The EIB streamer is awarded to Infantry or Special Forces units that have authorized guidons, if 65 percent or more of the soldiers assigned during the EIB test period are awarded the EIB. The unit may then display the streamer for one year.

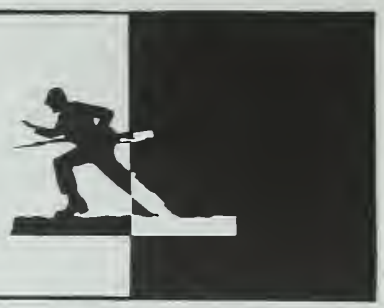
Commanders are required to notify the Infantry School three months in advance of their EIB test periods and to submit after action reports to the School within 15 days after their units have completed the test. The reports must include the number of soldiers tested by task, the number who passed each task, and the number who earned the EIB. The School will use this data to study possible future changes to the EIB program and test and to determine which tasks, if any, may need to be revised.

As time passes and the number of soldiers who hold the Combat Infantryman Badge diminishes, we need to look even more to soldiers who have earned the EIB for the high degree of individual all-round proficiency that today's Army requires. I therefore encourage all infantrymen to train to the EIB standards so that they can successfully complete the test and be recognized as Expert Infantrymen.

I also challenge commanders at all levels to improve their individual and collective training programs so they can train their soldiers toward the goal of attaining the Expert Infantryman Badge, and more important, the goal of attaining success in combat.

The overall percentage of soldiers who volunteered to take the test and attained the EIB during unit testing has increased. For example, the average passing rate in 1988 was 14.3 percent; in 1989 it is 20 percent. The EIB is a tough but attainable goal that today's infantryman should strive to achieve. When a soldier is finally awarded the EIB, he will know that he has joined the ranks of a select group of professionals—the infantrymen whose determination and combat readiness are symbolized by the coveted Expert Infantryman Badge.

INFANTRY LETTERS



RANGE CHECKLIST

EDITOR'S NOTE: The Commandant recently received the following letter from the commander of the 25th Infantry Division. We are grateful to all of our senior commanders who take the time to share their thoughts on subjects that are important to the Infantry community.

I read with pleasure the article "Range Operations Checklist" in INFANTRY's May-June 1989 issue (pages 10-13). The checklist presented is very thorough from a mechanical standpoint and should be a great help to NCOs and officers who are running ranges in the field throughout the Army.

The checklist misses one major point, however, that I feel deserves to be highlighted. That point is that the very first thing a trainer must do before running any range is to determine the purpose of the range and ensure that every action taken to set up, organize, and execute the range contributes to meeting that purpose.

I have found that all too often the officers and NCOs in charge forget the ultimate purpose of the range and get involved in the mechanical aspects such as keeping it safe and the like. For instance, an M16 zero range is not so much about firing several three-round groups and then pushing the people on to the next range as it is about making sure the soldiers can hit the target with their weapons. Too often, soldiers are pushed on before they have obtained a solid zero simply because "it is time" or "they have used 12 rounds."

To prevent this, someplace up front in any range checklist should be a very strong statement that every range has a specific purpose and that behind the specific purpose is the general purpose of improving the soldiers' confidence that they can hit targets with their weapons.

We need to get our soldiers attuned to the fact that achieving the purpose of the range is all important—not the mechanical "go-no go" aspects of a checklist. Anyone who does not keep a clear eye on the purpose can run a mechanically perfect range and still not achieve the purpose of giving the soldiers confidence with the particular weapon they are firing.

CHARLES P. OTSTOTT
Major General, USA
25th Infantry Division
Schofield Barracks, Hawaii

WEAPON TEMPLATE

The do-it-yourself weapon template shown in INFANTRY's Swap Shop in the May-June 1989 issue is a good idea, but the diagram does not include a map scale.

Since the Army has many different types of maps, this graphic aid should also be labeled with the appropriate scale for the map being used. A mis-match of template to map could have disastrous results.

BRUCE D. REID
SGM, Vermont National Guard
Rochester, Vermont

RIFLE MARKSMANSHIP

I enjoyed Colonel Vowell's article "Rifle Fighting: High Payoff Training" in INFANTRY's May-June 1989 issue (pages 22-25). I agree with his argument that high-quality rifle training results in high payoff training.

My experience has been that lack of time and suitable ranges is a greater constraint than lack of ammunition. I have never seen a unit that actually ran out of small arms ammunition; many, in fact, do not expend their annual allocation.

Lack of a "suitable" range is not really a problem either. Most posts have known distance (KD) ranges, although often in a state of disrepair. Using the down-range feedback exercises outlined in the new edition of FM 23-9, M16A1 and M16A2 Rifle Marksmanship, a unit can do first-class rifle training on almost any range.

This revised manual also describes an excellent year-round rifle marksmanship training program. The only drawbacks to downrange feedback firing are that the range needs enough depth to include 75-meter and 175-meter targets (at least), and that soldiers must walk downrange to check their targets. (The latter is really only a minor inconvenience.)

Even if *no* ranges are available, a unit can still use Colonel Vowell's suggestions concerning firing into an impact area. I would also expand this idea to include firing M203 TPT and SAWs as well. On ground that has dead space, the grenadiers can get invaluable practice in estimating range and recognizing dead-space, something they can't practice well on most M203 ranges.

Finally, I heartily agree with Colonel Vowell's basic premise: Rifle marksmanship will get better only when commanders realize that their units are weak in this skill and then take steps to correct the problem.

PAUL L. CONWAY
MAJ, Infantry
Durant, Oklahoma

FILLING CANTEENS

As a former member of the Simultaneous Membership Program offered to Army ROTC cadets, I served with a mechanized infantry company. I noticed one task in particular that was laborious

and time-consuming—refilling canteens from the M113's five-gallon water jugs.

The vehicle crewmen had to unlatch the water jugs from the vehicle and then relatch them. Not only was this practice tactically unsound but it also wasted a fair amount of water.

To simplify this task, I suggest two possible solutions: Supply each vehicle with at least two four-foot lengths of half-inch tubing to be used as siphoning hoses (or, for hygienic reasons, issue one to each soldier), or modify each jug by adding a spigot near the bottom.

Either of these suggestions would make it easier for the soldiers aboard an M113 to refill their canteens.

HERBERT A. VAN PATTEN II
California State University
Fullerton, California

AAWS-M MAN-PORTABLE?

Recent articles concerning the advanced antiarmor weapon system, medium (AAWS-M) have publicized this much-needed weapon as "man-portable." Although I am not totally familiar with the system's characteristics, these articles have suggested that it weighs almost 45 pounds.

I respectfully submit that the typical infantry soldier will have extreme difficulty sustaining this load and that the weapon is not, in fact, man-portable.

The reality is that soldiers designated as antitank gunners will also be carrying other equipment. Assuming a gunner has a personal weapon, ammunition, rucksack, load carrying equipment with water, rations, and the like, this load, combined with that of the AAWS-M, will be too much for him to carry.

An example of this problem is the current 32-pound "man-portable" Dragon. With the Dragon, a soldier has the combat load stated above, plus the Dragon and the day sight tracker, the night tracker, and the coolant bottles.

An assistant gunner had to be added to help the gunner carry this weight. A study concerning the Dragon points out, however, that even with an assistant Dragon gunner, the total weight requirement that must be split between the two soldiers is about 150 pounds for sustained operations of at least 24 hours. This weight includes an additional round of ammunition and extra coolant bottles for the night sight. But it does not include the additional weight requirements associated with a soldier's normal load.

Even recognizing that the AAWS-M has a combined day-night sight and no requirement for coolant bottles, an assistant gunner still will not solve the problem. The weight requirement for the gunner remains the same (more than 45 pounds), assuming that his assistant carries an additional round. Furthermore, factors of METT-T (mission, enemy, terrain, troops, and time) will determine the requirement for additional rounds and therefore for additional weight requirements.

The major METT-T factors to be considered are the capability of the system (equipment) and enemy forces. Although the true kill probability (PK) of the AAWS-M is classified, I do know it is determined by the probability of hitting the target given a lock-on (PH), multiplied by the probability of kill given a hit (PH x PK). Put more simply, the gunner must first lock onto a target, fire, and hit the target in order to kill it. In any case where PH and PK are not 100 percent, more missiles will be needed.

It is well to remember that enemy armored vehicles (tanks) normally do not move unsupported. Further, most armies do not like to split their tanks into independent sections. The armor threat likely to be used against a U.S. force, therefore, will be of platoon size (four tanks) or larger. Assuming PH and PK are less than 100 percent, the gunner's question becomes How many missiles must I carry to be able to destroy four or more tanks? If you add other targets of opportunity (bunkers, other vehicles), restrictive terrain, battlefield confusion and fear (which decrease the probability of hit), and possible inaccuracies in the intelligence estimates of the enemy force, the requirement for missiles increases.

Ultimately, the commander must determine how to carry this additional burden. The requirement for additional missiles is especially worrisome for light infantry soldiers who are not carrying a sustaining load and have a limited resupply capability.

The weight of the AAWS-M and additional combat load requirements, coupled with the probable need for more missiles, will increase the difficulty of sustaining that load. The only answer to the problem appears to be the redistribution of weight through some technical means. As an example, the Egyptians used pull carts during the 1973 Arab-Israeli conflict. Historical examples of weight redistribution methods for U.S. forces include the use of mules. Regardless of the method, a means of redistributing the weight of the AAWS-M must be found.

To avoid confusion in the future development of infantry weapon systems, I would require the system engineer who is working on a proposed weapon to carry it, along with the associated soldier's combat load, for at least 10 miles—intermittently running, crawling, and the like, in full MOPP gear—before allowing him to apply the term "man-portable" to it.

DEE C. CHRISTENSEN
CPT, Infantry
U.S. Army Training Board
Fort Monroe, Virginia

ROTC ALUMNI ASSOCIATION

The Army ROTC Department at the University of Texas at Austin is in the process of establishing an Alumni Association. The association's purpose will be to support the ROTC program's growth, development, and advancement, thereby doing the same for the cadets.

Any ROTC alumnus of the University of Texas at Austin who has not been contacted may send name, address and telephone number to: Military Science Department, University of Texas, RAS Hall 110, Austin, Texas 78712-1182; or call Cadet Sergeant Roger Booker or me at (512) 471-5919.

DUANE PUFFPAFF
MAJ
Austin, Texas

INFANTRY NEWS

THE INFANTRY SCHOOL'S Infantry Proponency Office wants everyone in the field to know about the two excellent sources of information it is offering—The Infantry Issues and Lessons Learned database and the Infantry Safety Lessons Learned database. (See "Infantry Issues and Lessons," by Jan Chervenak and Eric J. Lynam, INFANTRY, July-August 1988, pages 11-12, and news items in the July-August 1989 issue, page 6.)

The Infantry Issues and Lessons Learned System provides unclassified, Infantry-related observations and issues from NTC rotations, major exercises, military operations, special events, unit initiatives, historical sources, and TRADOC-sanctioned unit visits. It consists of a software package and database that runs on IBM-compatible personal computers.

Infantry units, battalion level or higher, in the Active Army, Army National Guard, or Army Reserve may obtain copies of this database by sending either six blank 3½-inch microdisks or ten blank 5¼-inch disks to Commandant, U.S. Army Infantry School, ATTN; ATSH-ES, Fort Benning, Georgia 31905-5420.

The Infantry Safety Lessons Learned database is designed to help commanders and leaders meet their responsibilities for conducting safe training and operations. It is available either through the same system as the Infantry Issues and Lessons database or by modem through the Safety Information Library in the Army Safety Management Information System (ASMIS).

Questions concerning either package may be directed to the Infantry Hotline, AUTOVON 835-7693, or commercial (404) 545-7693.

THE TRENDLINE Analysis Program (TAP) is a part of a continuing effort by the Training and Doctrine Command (TRADOC) and the Army Research Institute to collect and manage data generated at the combat training centers during unit rotations.

The Infantry School is initiating a program to examine issues on a quarterly basis through research efforts and focus rotations at the National Training Center.

The link between the databases of TAP, Infantry Issues and Lessons, and the Center for Army Lessons Learned will give TRADOC and the integrating centers data that will influence or assist in doctrine, force management, systems development, and training matters.

THE INFANTRY SCHOOL is initiating a change to the table of organization and equipment documents for the infantry rifle company (other than mechanized and airborne units) to consolidate medium antiarmor weapons under the company headquarters. This change will establish a company weapons section consisting of a Dragon section and the company mortars. The Dragon section will include three teams, each composed of two systems, two gunners, an assistant gunner, and an NCO team leader.

This change is a result of a year-long study to determine the most favorable method of organizing to improve combat effectiveness and training and also the most adaptable structure for task organization.

A DEDICATED SNIPER SQUAD in the headquarters company of infantry and air assault battalions is another result of the rifle company antiarmor reorganization (see item above).

The sniper squad will consist of three two-man teams, each consisting of a sergeant and a sniper. One of the three sergeants will actually be a staff sergeant and will serve as the sniper squad leader.

Although infantry units today normally have existing personnel serve as nondedicated snipers, this new organization will provide the first opportunity in a number of years for evaluating the difference, if any, between designated and dedicated snipers.

THE RESERVE COMPONENT Advisors at the Infantry School are now Colonel Rodney W.K. Morris, the U.S. Army Reserve Advisor, and Lieutenant Colonel Richard A. Wright, the Army National Guard Advisor.

Both can be reached at AUTOVON 835-7113/5741, or commercial (404) 545-7113/5741. Their telefax number is AUTOVON 835-7837 or commercial (404) 545-7837.

THE CHIEF OF THE DOCTRINE Division, Combined Arms and Tactics Department, at the Infantry School is frequently asked various questions about doctrine. Some of those questions, along with the answers, may also be helpful to others:

What is doctrine? Some say that doctrine is what half of the force does. Others say it is what is written in field manuals. To some, doctrine is the "codification of common sense" or the documentation of lessons learned from experience.

JCS Publication 1 defines doctrine as the "fundamental principles by which military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application."

The four critical elements of doctrine are that it is written, is developed by people especially selected for their positions, is approved by competent authority, and is relatively enduring in its effect.

How is doctrine influenced and developed? Doctrine is influenced by many things, including technology, the

threat, national security policy, and history.

Doctrinal publications are developed in stages, or steps, prescribed by TRADOC Regulation 11-7. Initially, research is done and an outline is drafted. Then the outline is revised into a preliminary draft that reflects the input of all the departments at Fort Benning. Next, a coordinating draft is written and sent to the field and other TRADOC schools to get their feedback. Finally, before publication, a final draft is written and approved.

Does doctrine change? Yes. Doctrine is greatly influenced by the factors noted above. Doctrinal "principles" such as the Principles of War noted in FM 100-5 are slower to change, but tactics, techniques, and procedures are always changing. The combat training centers (NTC, JRTC, CMTC) are playing a big role in that change process.

What doctrine has been written recently at the Infantry School? Together, the Infantry School at Fort Benning and the Armor School at Fort Knox have recently published three critical "71-series" manuals (for "mounted" units)—FMs 71-3, 71-2, and 71-1. In addition, manuals have been published on the employment of Long-Range Surveillance Unit Operations (LRSU/FM 7-93) and Anti-Armor Platoons, Companies, and Battalions (FM 7-91).

What doctrine is being written today at the Infantry School? The School is developing four critical "7-series" manuals (for dismounted units)—FMs 7-8, 7-10, 7-20, and 7-30. These manuals, which replace manuals written in the early 1980s, discuss the employment of dismounted Infantry units—squad through brigade—on the AirLand Battlefield. Most of these manuals are in the coordinating draft stage.

What doctrine will be written in the future? A lot of thought is being given to the role of the infantry in "low-intensity" conflict. For instance, what is the role of infantry units in counterinsurgency/insurgency, peacekeeping, terrorist response, and peacetime contingency operations? What should the role of infantrymen be in drug interdiction, security assistance, or foreign internal defense?

The Infantry School is examining these issues as it works to update low-intensity doctrine in publications such as FM 90-8, Counterguerrilla Operations. The School also envisions other doctrine related to dismounted scouts, mortar employment, combat in built-up areas, and fighting the Bradley infantry fighting vehicle.

Further comments or questions on doctrine may be directed to Chief of Doctrine, USAIS, ATTN; ATSH-B-ID, Fort Benning, GA 31905-5410 or AUTOVON 835-7162/7155.

THE RAPIDLY EMPLOYABLE Lightweight Litter, referred to as the SKEDS litter, is designed to be used as a rescue system in almost all types of terrain, including mountain, jungle, heavily wooded areas, waterborne operations, and on snow or ice.

The SKEDS litter, a GSA catalog item, is made of durable plastic and available in a subdued green color. It can be rolled and carried in a woodland camouflage pattern carrying case. The basic SKEDS litter weighs 16 pounds complete with camouflage case, straps, snap link, and 30-foot kenmantle rope. Other special optional items such as the spine immobilizer and flotation system increase the weight to 32 pounds.

Using the SKEDS litter, one soldier can pull a casualty over most types of terrain, while a field expedient poncho litter or the semi-rigid poleless litter requires two soldiers or more. Up to four soldiers can use hand loops to carry a SKEDS litter containing a seriously injured casualty or a very heavy load across difficult terrain.

During a recent Joint Readiness Training Center (JRTC) rotation, elements of the 75th Ranger Regiment successfully demonstrated that, in addition to its medical use, the litter can be used to move equipment, ammunition, and, in general, heavy loads to and from drop zones, landing zones, and objective areas during combat training operations.

The SKEDS litter is listed in the GSA Federal Supply Schedule, March 1989, FSC Group 42, Part I, Section B, Special Item Number 465-10, Emergency Stretchers, Brand SKEDCO Incorporated, page 8.

THE ARMY'S NEW M22 Binoculars are now being produced at the rate of 5,000 a month. The binoculars, encased in green rubber, replace the old metal M19 version.

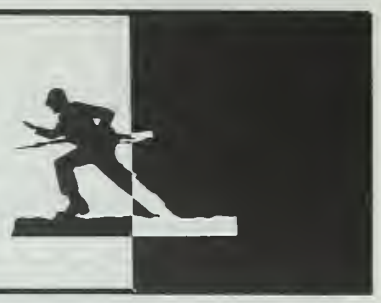
The body is made of lightweight, temperature resistant, and unbreakable fiber-reinforced polycarbonate. It has no carrying case and sports a special filter to neutralize laser attacks. A specially modified commercial version, the field glasses were developed over a three-year period. They cost $190.28 each, including the laser protection inserts.

Unlike its predecessor, the M22 is basically a "nonrepairable" item; that is, if the body breaks it will be totally replaced. The only exchangeable items are the eye cups, eye lens cover, carrying strap, front covers, and laser filter.

At 3.5 pounds with the laser filter, it weighs less than one-half pound more than the M19 with its carrying case and, like its predecessor, it has a 130-meter field of view at 1,000 meters. It comes with a removable neck strap and covers for both the eye lenses and front glass and has foldable eyecups that are said to be safer because of the cushioning. An adapter ring permits the user's optical characteristics to be set in both eyepieces, and require no further adjustment.

One of the telescopes includes a horizontal and vertical reticle graduated in 10-mil increments. The reticle is used to determine range on the basis of known target widths.

PROFESSIONAL FORUM



Auftragstaktik
Its Origin and Development

LIEUTENANT COLONEL JOHN L. SILVA

Since FM 100-5, Operations, was published in August 1982, the U.S. Army has made much of the mission order and mission-oriented command. In fact, we seem to have elevated the mission order to the level of a quasi-sacrament and have almost made it an end in itself.

In the absence of a clear understanding of the context in which the mission order developed, we may see its adoption as the single solution to our perceived command and control problems. In doing so, we may believe we are using mission-oriented command when we are really using only the mission order. If this is the case, we will have adopted the form while ignoring the substance.

Mission-oriented command, or what the Germans call *Auftragstaktik,* is a decentralized leadership and command philosophy that demands decisions and action at the lowest level of command where there is an intimate knowledge of the situation and the commander's intention in beginning an operation. (See also "*Auftragstaktik,*" by Captain Frank A. Kerkemeyer, INFANTRY, November-December 1987, pages 28-30.) The mission order is merely a technique that is used to implement and execute mission-oriented command.

Mission-oriented command is based on a belief in the ability of an individual's creative action to solve a problem without recourse to higher authority; the mission order is only the small component of mission-oriented command that we see in the field. But there are other components of mission-oriented command that must also work before an army takes the field:

- Mutual trust among leaders based on each leader's intimate personal knowledge of the capabilities of the others.
- Training and organization in everything the army does to reinforce the primacy of the judgment of the man on the scene (decentralization).
- A willingness to act on the part of all leaders and those who aspire to be leaders.
- Simple, commonly accepted and understood operations concepts.

The success of the AirLand Battle concept depends on the initiative of our junior leaders to act in the spirit of their commander's intent in the absence of orders. The only historically proved method of giving subordinates the freedom to act on their own is mission-oriented command. This concept cannot be adopted, however, by simple doctrinal decree.

If we unthinkingly rush to impose mission orders upon ourselves without fully understanding the whole of mission-oriented command, we risk adding more confusion to an already chaotic environment. When used out of its proper context, the mission order alone is not mission-oriented command and creates more problems than it solves.

The German Army of 1800 to 1945 is widely believed to be the most consistently successful modern army at using mission-oriented command. The following brief outline of its development and components may broaden our understanding of *Auftragstaktik* as an organic whole.

With the advent of Napoleonic open-order tactics, the Germans saw a need to take advantage of the potential for individual creativity at every level to solve common military problems, instead of relying on the native brilliance of one individual in command to solve all problems.

They were quick to realize that almost every man in a battle could contribute more than just his physical prowess. They were among the first to institutionalize the harnessing of collective

creativity within a generally accepted pattern (doctrine) of military action.

Mission-oriented command, as practiced by the German Army, accepted a lack of absolute control over events on the battlefield. Instead of trying to dictate the actions of each subordinate, the Germans realized that there was much more profit in trying to ensure that, when the need arose, their subordinates would act without waiting for orders.

The Germans believed that it was better to know that each man would act on his own to contribute *something* than to have him wait for orders to do the "right" thing. The idea of the commander's intent as a normal part of the mission statement was important, of course, because it provided a framework within which an isolated subordinate could act in the spirit of that mission.

As a corollary to the notion of the commander's intent, the German Army established a simple conceptual framework that provided a common basis for action in the absence of orders. This framework was based on the idea that a successful defense depended on the rapid destruction of an enemy army through maneuver so the defenders could turn and face other potentially aggressive armies. The German military leaders believed that offensive maneuver offered the best chance to shock and dislocate an enemy force so it could be destroyed at the least cost to them. It became the preferred German method of war, even within a defensive strategy, and a staple in the German military tradition.

PREJUDICE

The Germans' approach clearly reflected their prejudice that there was more art than science to battlefield operations. They accepted that battle is marked by confusion and ambiguity and consciously traded an assurance of control for an assurance of self-induced action on the part of subordinates. They apparently embraced the confusion of battle as an unending source of potential opportunity and built a command and control philosophy in which that potential could be realized through decentralized decision making. They seem to have faced and solved the extraordinarily difficult problem of motivating men to take independent action in the midst of battle without orders or supervision.

Over the course of about 150 years, they developed a professional tradition that was founded on a belief in the ability of the man on the spot to act—within this broad but well understood and accepted conceptual framework—to solve the many tactical and operational problems that face an army in action. And then they acted on that belief by institutionalizing the concept.

EDUCATION

Critically important to this institutionalization of *Auftragstaktik* in the German Army was the superior military education offered to selected officers in the *Kriegsakademie*. The academy originated with the officer education reform activities of Prussian general Gerhard Johann David von Scharnhorst at the start of the 19th Century. It was an effort to raise the level of military and liberal arts education for regimental and staff officers.

The academy was somewhat exclusive, initially, because the faculty and the facilities were limited. Later, though, this exclusive nature was maintained by design, because an applicant had to have his regimental commander's specific recommendation and had to undergo an exhausting, competitive entry examination.

Before he could graduate, he had to receive a favorable faculty recommendation (based on the continual evaluation of each student's creativity, objectivity, and mental stamina, as well as course grades) and to complete a comprehensive series of written and oral examinations. The graduate also had to serve a one-year apprenticeship with the General Staff before he could become a permanent member. Appointment to the General Staff was not automatic—the apprentice-officer had to earn it.

Officers who failed to graduate stayed at the Academy to complete the same military education as the graduates, and they took their skills back to their regiments to teach others. There was no stigma attached to not being selected for General Staff duty, and no thought seems to have been given to relaxing the demanding studies and tough evaluations simply for the sake of turning out more graduates. If his performance of duty in the regiment was consistently outstanding, an officer who had completed the Academy but had not been selected for an apprenticeship could be called later to join the General Staff and to serve that apprenticeship.

As mentioned above, the basic German concept was simple: Maneuver to shock the enemy in order to destroy him. If a junior NCO or officer acted in some way to do this, he was always "right." This conceptual framework was promulgated throughout the army in the General Staff training, in professional journals, and in all unit training.

The unit commander was charged to an extraordinary degree with the training, education, and development of his juniors. (Until fairly recently, in fact, there were few schools in the German Army, and the personnel system was highly decentralized.) This decentralization was merely a natural extension and reinforcement of decentralized decision making.

INEXCUSABLE

Because German doctrine was regulatory, therefore, a subordinate's failure to act in the absence of orders was "illegal" and, at the very least, inexcusable in the eyes of his superiors and peers. An NCO or officer knew he was expected to act on the situation as he saw it, and he knew his action would be supported. As a result, action in the face of uncertainty and responsibility for that action was developed into a social norm.

Trust between superior and subordinate was the cornerstone of mission-oriented command. The superior trusted his subordinate to exercise his judgment and creativity and to act as the situation dictated to reach a specified goal. And the subordinate trusted that his superior would support whatever action he took in good faith to contribute to the good of the whole.

German machinegunners, Italy, 1944.

The superior's level of confidence in his subordinates could be high or low as a result of the intimate knowledge he had gained through his personal responsibility for their training and development. He knew which of them could be trusted to execute a mission on the basis of broad orders and which needed more detailed instructions. But he knew that each would act.

The subordinate was willing to exercise his judgment during periods of great stress with no additional instructions once the action started. The superior constantly nurtured this willingness by allowing for mistakes of detail or method and by permitting errors of judgment during training.

The idea that "everything short of war is training" was held to be valid: Every action taken by an officer in the field or in garrison was important to the process of inculcating a preference for solutions. If a subordinate erred while acting in good faith, he did not suffer anything more than corrective coaching. His solution might be constructively critiqued, but the result of his action—and the reason he took that action—were considered far more important.

The role of corrective advice was to teach and coach the subordinate so that his future action would make a more positive contribution to the unit's success in combat. This idea was based on the premise that one learned more from a well-meaning mistake that was constructively critiqued than from a mediocre performance that was hardly noticed.

Initially, the superior was not so much concerned with what a subordinate did or how he did it. Rather, his emphasis was on seeing that his subordinate gained and then maintained an instinctive willingness to act and that he analyzed why he acted as he did and the effect his action had on the overall operation. Hearing the subordinate's view of his reasons for a certain course of action helped the superior evaluate the adequacy of his own original communication of the mission and his intention.

The German Army's training system used two very simple criteria to judge whether the junior leader did well: the timeliness of his decision and his own justification for it. The first criterion impressed him with the need to act quickly while the second required him to reflect on his action and gain insight into his own thought process. Since he had to justify the decision in his own mind before implementing it, imprudent decisions and rash actions were less likely. In training, what he decided to do was relatively unimportant. The emphasis was on the effect of his action on the whole, not on the method he may have chosen. In an environment where there were no formulas, this technique solicited creative solutions.

Through mission orders, therefore, mission-oriented command brought the collective creativity of subordinates into the decision and action processes. The subordinate had a personal stake in the outcome of battle, because he knew he contributed to it intellectually and independently.

Mission-oriented command was based on the idea that undue criticism, after the fact, of the man on the scene—who was in a confused, dangerous, and pressured situation and who had the best command of immediate information—was unwarranted. Anything beyond a constructive critique would only destroy the subor-

dinate's willingness to act and might even lead him to withhold adverse information or provide falsely optimistic reports simply to avoid his superior's wrath. This idea recognized there was little in mission-oriented command that was "systematic" and made allowances for this.

In mission-oriented command, both superior and subordinate shared the burden of mission accomplishment. Of course, the greater burden obviously rested with the superior, because he had to teach, trust, support, and correct well-intentioned but possibly errant actions. The subordinate was required to report accurately and to act when the situation demanded it. Inaction, not "wrong" action, was the cardinal sin.

The heart and soul of *Auftragstaktik* was the desired result, not the way the result was achieved. It rejected as counter-productive any attempt to control the type of action initiated during combat. It concentrated instead on instilling in subordinates the will to act as they deemed appropriate in their situations to attain the desired result.

The cultivation of initiative required special effort. It was so central to mission-oriented command that it applied to squad leaders as well as to division or corps commanders. A leader had to make a truly gross error to be reprimanded, and then the reprimand would not forever haunt him throughout his service or unduly penalize him for an honest mistake.

In brief, the function of mission-oriented command was to bring the collective creativity of an army to bear in solving tactical problems. It rewarded the soldier who acted and penalized the one who did not. The mission order, the battlefield technique through which mission-oriented command was practiced, included the mission's objectives and a clear articulation of the commander's intent. The order not only left the subordinate free to determine how to complete his mission but also relied on him to decide on new courses of action as events unfolded that altered the assumptions made in planning.

Auftragstaktik was a product of German social and cultural tradition, and it was adapted by the German Army for its purposes. It depended on a relatively simple but well understood and accepted operational concept to generally guide commanders in deciding how to accomplish their missions. It demanded—and provided—adequate training and education both in the *Kriegsakademie* and in the units to make its execution reliably sure. It recognized and compensated for differences in the temperament and ability of its officers and NCOs through personalized unit training and professional development, and in the details each was given in orders in the field. It provided a gigantic support structure to infuse and sustain the subordinates' initiative in battle.

This concept worked so well, however, that we in the U.S. Army now idolize it without fully comprehending the totality of what it was, why or how it developed, or how it worked as a system.

We must understand that issuing mission orders is not practicing mission-oriented command. To use this command concept successfully, subordinate leaders must be adequately prepared for it, and the entire organization of an army must be prepared to support, sustain, and reinforce it.

Our AirLand Battle doctrine is right in demanding that decentralized decisions be made by the man on the spot. Our challenge is to find a method of decentralized decision making that fits our culture and our Army.

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Improving
The Staff Planning Process

CAPTAIN JOHN SCUDDER
MAJOR DAVID MAGRATH

The primary mission of the National Training Center (NTC) at Fort Irwin is to observe, control, and train battalion task forces in continuous tactical operations against an opposing force (OPFOR) motorized rifle regiment that uses Soviet tactics. One of the greatest challenges facing an armored task force at the NTC is the staff planning process.

To succeed in the NTC's intense desert environment, a task force staff must be able to plan, support, and supervise movement over extended distances and for extended lengths of time, and react to rapid changes in the essential informa-

tion. Further, a staff must have the special ability to carry out the commander's intent on the basis of mission-type orders and broad guidance.

During a 12-month train-up period for an NTC rotation and the NTC experience itself, we served with a battalion task force made up of two tank teams and two mechanized infantry teams from the 1st Battalion, 77th Armor, 4th Infantry Division. During that training, we learned that units preparing for and training at the NTC face several problems with staff planning:

First, the staff planning process is often too slow. Doctrinally, the Army preaches the "one-third, two-thirds" rule for staff planning procedures and the production of operations orders. This practice is supposed to give a higher headquarters one-third of the available time to prepare an order and the subordinate units two-thirds of that time. But units at the NTC have considerable trouble adhering to this doctrine.

PERFECTION

In many instances, task force staffs are slow in collecting information and in gaining and interpreting the commander's broad guidance. The staff members try to create the perfect solution in a slow, methodical manner, and argue with subordinates on the "best" course of action to present to the commander. These problems not only take time away from company, platoon, and squad planning, they also hinder a staff in its efforts to supervise the execution of a mission.

After studying the negative results of slow staff planning on other units, we decided during our train-up period to try a "one-eighth, seven-eighths" schedule for the process. Our intent was to produce an operations order as quickly as possible, then to conduct a follow-on analysis and issue any subsequent changes as fragmentary orders.

We found that the intelligence and operations sections could handle this constraint on time. But the other staff agencies (fire support, air defense, engineers, logistics, and Air Force) could not analyze the situation and develop proper courses of action for the mission at hand.

The end result of using this schedule, then, was a fast operations order but one that showed a shallow analysis of the mission and a complete lack of substance in the key supporting areas.

Another problem at the NTC is the fatigue suffered by the task force leaders as their units continually try to fend off the OPFOR threat 24 hours a day for 14 days. Unfortunately, although the fatigue issue has been discussed in many forums and some recommended solutions have been documented, most leaders still believe in the "macho image," in which "real soldiers" do not get tired and can function with little or no sleep.

Nevertheless, the effect of fatigue on staff planning is severe: Simple actions such as taking notes become Herculean tasks; a person's ability to focus on what is important becomes cloudy; leader judgment is questionable; and decision making is poor. Obviously, in such a situation, the staff's product is always far from perfect and often inadequate.

The task force attachments also present a real problem. Unfortunately, with the Army's current authorizations for personnel and equipment at the battalion level (units are either pure armor or pure infantry), many staff agencies do not get an opportunity to work with combined task forces except during major training exercises.

PROBLEMS

For a variety of reasons, some of our staff attachments were unable to take part in the train-up before our rotation to the NTC. Undoubtedly, the problems that developed later were caused by their lack of familiarity with the other staff members and with the way the task force as a whole operated.

In fact, when these problems were combined with some doctrinal innovations and additions we made to our standing operating procedures, these staff agencies fell far behind the planning process months before our NTC rotation began.

Another problem that develops at the NTC in staff planning is that, at times, the dominant personalities on the staff, those who have the most ideas and speak the loudest, are the most convincing. This creates a "sales pitch" atmosphere that is almost competitive. Consequently, other staff members who are not as energetic or aggressive are stifled, and their valuable input is lost.

In many cases, it is the S-3 who, because of his operational role and informative power, has this type of personality. As a result, a task force commander may rely upon or listen to his S-3 almost exclusively and neglect other staff sections that are equally vital to the success of the mission.

GOALS

From an analysis of the lessons we learned during our train-up and our actual experience at Fort Irwin, we have developed a series of goals that will allow our staff to function better as a team the next time we train in such an intensive environment. These goals are the following:

First, we want the staff to be able to *anticipate* the commander—understand his intent without having to talk to him. If we can correctly "read his mind," we will not be forced into making last-minute changes.

Second, we want to convince the commander (and the staff) that the sole objective in any operations order is "a B+ plan and an A+ execution." We will therefore save time, because the staff officers will not spend an excessive amount of time trying to come up with a perfect plan.

Finally, we want to consolidate our planning process so we can issue an operations order within five hours of receiving a brigade order. This goal will allow enough planning time at all command levels.

As a starting point, we found that Army doctrine offered some help. Field Manual 71-2J, for example, puts troop leading procedures into a simplified form as follows:

- Receive the mission. (Conduct the mission analysis.)
- Issue the warning order. (The com-

mander gives planning guidance to the staff.)

- Make a tentative plan. (The staff develops courses of action, those courses of action are wargamed, the commander then adopts the final course of action.)
- Begin movement. (The task force is alerted to upgrade its readiness status.)
- Reconnoiter. (The commander meets with his staff in the battle position.)
- Complete the plan. (The commander refines his concept with input from all staff agencies.)
- Issue the order.
- Supervise and refine. (The staff begins to check units to insure compliance and understanding.)

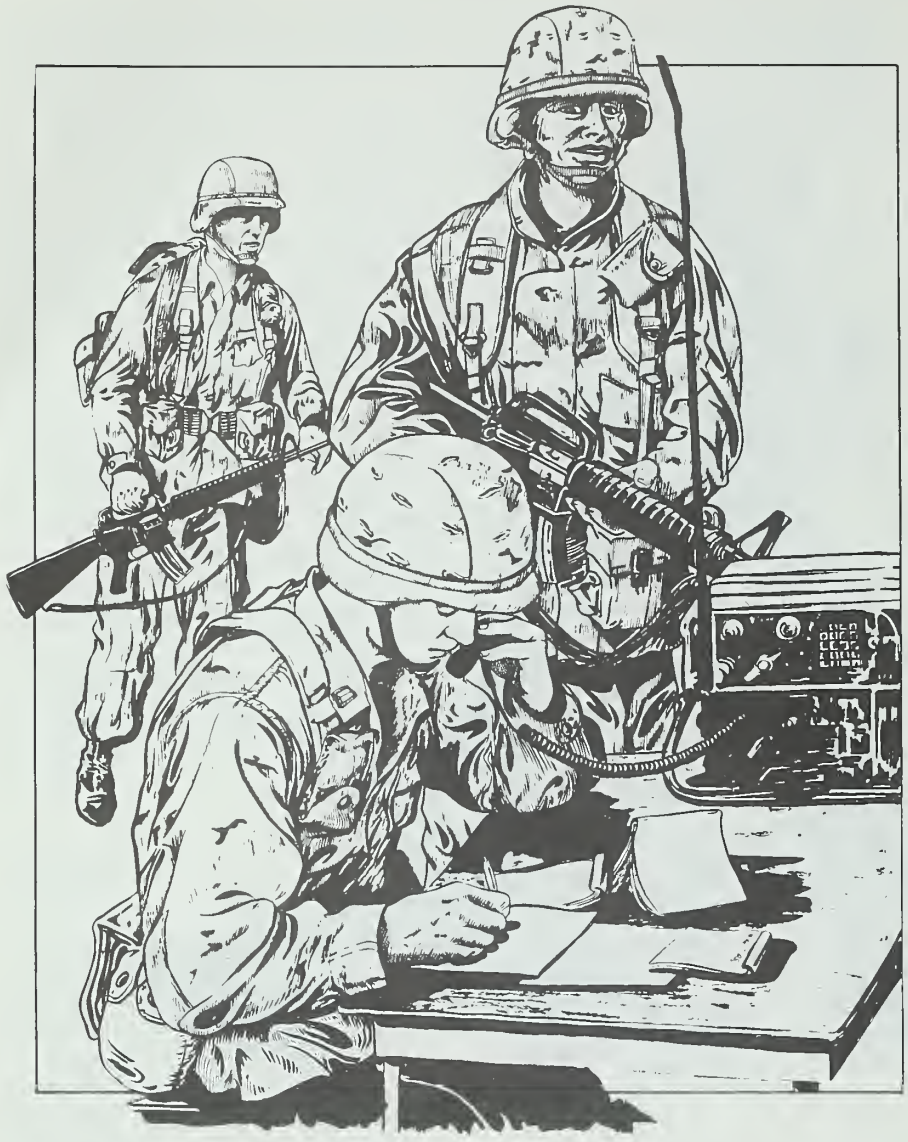
This method outlines what a staff must do before a mission is actually executed. In addition, the Staff Officers Handbook (RB 101-999, 1983) accentuates troop leading procedures in a decision making flowchart (page 2-2).

With the troop leading checklist and the decision making flowchart, we began to incorporate these guidelines into a training plan that would help us reach our objective.

In the 1st Battalion, 77th Armor, we have tried to integrate the lessons we learned from our analysis of the problem with the published Army doctrine to develop a well-thought-out staff training plan. The basis of this plan evolved from training both at the individual and the group level. A unit can use the following techniques to help build the high-performance staff it needs to withstand the demands of the NTC and of combat.

Since a staff deals with a variety of subject areas (combat intelligence, personnel administration, operations and plans, and logistics, to name a few), all staff officers must have personal checklists that outline their particular areas of interest. These checklists may take the form of notecards, acetate-covered briefing charts, or specific map boards with the same information on them from each staff agency. The information on the lists may include refined standing operating procedures (SOPs), troop leading procedures, or the decision making flowchart from the Staff Officers Handbook.

The use of checklists also improves communication among the staff members as well as communication with the



major subordinate commands. And if the checklists are used habitually, they will be easier to use during a major exercise, especially when a unit is given its fifth consecutive mission and its staff officers are fatigued.

Another key training tool for the staff is operations order drills. These drills should be done bi-monthly either in garrison or in the field to sustain the staff's operational effectiveness in troop leading procedures and in the decision making process.

In a garrison environment, a battalion has access to the Army Training Battle Simulation System (ARTBASS), which trains staffs on a computerized battlefield, and to the command post exercise (CPX), which accomplishes the same objectives as ARTBASS using a large-scale map for the battle simulation.

In a field environment, a battalion can use a command field exercise (CFX), which requires a minimum of manpower and equipment to execute each mission. Normally, a CFX is used in conjunction with a major field training exercise (FTX) that prepares the staff for its upcoming full-scale challenges.

Overall, the training methods used in garrison and in the field must be intense and stressful. The attached staff agencies absolutely must participate so that a team environment can be created, people with dominant personalities can be trained to be more cooperative, and staff problems can be ironed out before the actual test occurs.

One of the greatest underlying problems with group interaction is the ability of some people to hide or rely on others to protect them. This is especially true in staff training. To expose these "ghosts" or malingerers, we have devised a method of individual training for our staff members. Under the guidance of the task force executive officer, we have adopted a staff test that can be used to evaluate all staff members on their ability to backbrief, conduct a mission analysis, provide well-considered courses of action for a particular problem, formulate and execute a sandtable simulation exercise, and run a training meeting.

Applying methods taught at the Combined Arms and Services Staff School (CAS^3), the XO works one-on-one with each staff member, keeps a performance status on each individual, and creates an intense environment that forces daily progress. This training identifies the "ghosts" and improves their performance.

TEAMWORK

The most important way to have a cohesive staff, however, is to establish teamwork. As with any successful team, the people on the task force staff must live, eat, sleep, and fight together.

One way to develop camaraderie is through social interaction, or teambuilding. Teambuilding techniques help work groups improve the way they perform their tasks and help individual group members improve their interpersonal and problem-solving skills.

Focusing primarily on the elements attached to the task force (fire support, air defense, engineer, and the Air Force), a unit must try to persuade those individuals to take part in social activities that they might normally avoid. For instance, in our battalion, the members of all the staff agencies were asked to take part in hail and farewell activities, parties, or ski trips. The results were surprising: We found that the people did enjoy talking about things other than work. In fact, once we adopted teambuilding, many of our communication gaps diminished while the staff's overall motivation and effectiveness increased.

To be successful at the NTC (or in war), all units, from basic infantry squads to armored brigades, must be prepared for it. With a competent staff, a commander can be sure his guidance will reach down to the lowest level, and executing the mission will therefore be easier. And if the staff can produce a coherent operations order in a short time, it will have more time to concentrate on the most important staff function, which is supervision.

Overall, by adopting Army doctrine in staff planning and by following the process and changing the behavior of the staff members, a battalion task force staff can produce a good plan in a short time. Although the plan may not be flawless, its execution will be successful if the units, all the way down to the individual soldiers, understand the commander's intent.

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Major David Magrath, also an Armor officer, is executive officer of the 1st Battalion, 77th Armor at Fort Carson. Previously, he was a battalion XO in Korea and a company commander in the 4th Battalion, 40th Armor at Fort Carson. He is a 1973 graduate of Norwich University in Connecticut.

After Action Reviews

MAJOR NOYES B. LIVINGSTON III

The after action review (AAR) has been an important training tool for several years, but many leaders still find it difficult to conduct an AAR without slipping into a traditional critique.

It is not unusual for unit and functional area evaluators to go through an entire series of task force ARTEP AARs describing accomplishments and weaknesses to a mute, captive, and passive audience of commanders and staff members. It appears that the average reviewer either feels obligated to demonstrate the thoroughness of his own observations or does not have the experience and patience to be a good interrogator and an active listener.

An effective AAR is nothing more than a structured, but informal, self-appraisal by unit members. It provides a wide range of mission-related, performance-oriented feedback and positive reinforcement. Although an AAR is an excellent format for making on-the-spot corrections if time permits, it must not be a one-way critique or a spur-of-the-moment lecture.

The goals of an after action review are to reinforce effective training, motivate soldiers to train, and identify a unit's training strengths and weaknesses. To accomplish these ambitious goals, an AAR must be well planned and must cover both mission requirements and the resulting tactical events. In addition to reviewing the action that was taken, an AAR should also explore alternative courses of action that might have been taken.

A good AAR is essentially a group discussion of a mission's key points—who, what, when where, and why—in which the important lessons learned from the "how", or the execution, are discovered by the soldiers themselves. An AAR does not need to evaluate the operation's success or failure explicitly, but it must analyze the way the training events occurred and their effect on the accomplishment of the mission.

Some soldiers are concerned about the extra time, patience, and effort they must devote to conducting an effective after action review. Active, direct, task-oriented people tend to believe that it is more efficient and effective to use their own experience and knowledge to tell the others the way things went and then go on to the next mission. If everyone involved in the training had perfect knowledge, equal interest, and similar capabilities, the traditional critique might be appropriate, but for the typical tactical training event, this is not the case.

The AAR method is important primarily because of the nature of training. A training event does not unreel in front of an attentive audience in a uniform, focused, sequential manner like a television program.

Instead, a training exercise is constructed from individual and group efforts much the same way a large building goes up behind a safety barricade on a busy street. The sidewalk spectators and construction workers—or the soldiers, in our case—watch only a small portion of the building process in uneven broken increments. Alone, each person sees little of the total progress of the effort, other than the building's eventual completion.

If, on the other hand, the architect or general contractor conducted a question and answer session at the base of the new building, the construction workers and onlookers together, with enlightened coaching, could probably talk their way through the entire building process.

Another useful analogy might be to compare a training mission to a football game, in which the offensive and defensive lines, backs and receivers, or even the coaches for that matter, see only a partial view of the game at a time. It isn't until the head coach shows movies of the game several days later that the players can see themselves act out their roles in each play and understand that play's effect on a particular series of downs.

No one would think it inappropriate for the coach to ask the key players what happened or for them to suggest a way they could have run a play or carried out their assignments in a better way. The same principles apply in training when soldiers are allowed to expand their field of vision, even after the fact.

CONDUCT

An AAR should be conducted immediately after the training period is completed for the chain of command, or by platoon, or in some special cases, for an entire company. It should be conducted, if possible, on the objective or a piece of terrain that overlooks a critical part of the training site. Equally important, it must be conducted in a non-threatening and non-judgmental professional environment. Coffee, soup, or hot cocoa is appropriate and greatly appreciated at the start of an AAR, but trying to conduct one during a meal is not productive.

Humor is an effective way of focusing group attention and maintaining interest, so long as it does not detract from the pace and tone of the AAR or embarrass the participants. After the troops have relaxed and laughed at themselves a little, the AAR leader, or facilitator, should have the leader of the opposing force (OPFOR) briefly describe his situation, mission, and plan of execution. The friendly unit leader should then do the same, but his plan of operation should be limited to his intentions; it should not be a premature tale of what actually happened.

The AAR presenter should then ask questions of the group about the training activities, following roughly the sequence in which they occurred. While doing this, though, he must be careful not to tell what he saw or what he thought of an action. The AAR leader's job is only to guide the soldiers through a discussion of what the unit was supposed to do, how it accomplished the task, and how the task could have been done better.

Although the AAR setting may be relaxed and casual, the activity itself must be well planned. The AAR leader should work from an outline of notes and a list of the functional areas or operating systems to be covered.

HEART

The heart of an after action review is the interrogatory discovery technique. The AAR leader must word his questions so the soldiers cannot answer them simply "yes" or "no" but must explain or elaborate on them. The questions "Who attacked the right-hand fighting position?" and "Did you destroy the machinegun?" will get only limited answers from one or two soldiers. On the other hand, saying "How did the squad breach the obstacle?" or "One of you describe how you marked the passage lane," or "Explain how you secured the far side" will engage a greater number of minds and elicit more imaginative answers.

To extend the group discussion in a logical and useful direction, the AAR leader must also be prepared to use the answer to one question as the basis for another question.

Each question should be addressed to the group even if the reviewer will eventually single out a certain soldier or leader to answer it. An effective questioning technique that complements and encourages group participation is to allow four to six seconds after the question before asking for a particular person or a volunteer to answer it. Even though this is difficult to do without practice, the long pause gives all the participants an opportunity to think over their possible responses and anticipate being called upon to explain it.

In addition to group oriented questions, individual soldiers should also be asked about their specific jobs or actions as they contributed to the operation.

Regardless of the questioning style used, either directly to an individual or to the group at large, the responding soldiers should be given an opportunity to demonstrate their answers on a simple terrain model. This sandtable or terrain model must be made up ahead of time to show key terrain features as well as important graphic control measures. It does not have to be fancy, just conveniently at hand and useful.

The OPFOR and friendly leaders should be questioned occasionally to bring the focus of the discussion back to the mission and the basic sequence of events. The leader might ask them to describe their plans and personal actions at key phases of the operation, as they are brought out during the AAR.

ELABORATE

It is critical that an after action review not be allowed to deteriorate into an adversarial confrontation between a few vocal or angry soldiers. The AAR leader must control it so that most of the participants have a chance to contribute. He must also avoid tangential issues that are not related to the major training objectives, and he should downplay excuses for poor performance.

The AAR should end on an upbeat note. At its conclusion, several soldiers should be asked to repeat their unit's mission statement. The group members themselves should be asked if they believe they accomplished their mission, and time should be devoted to briefly discussing again why or why not. The soldiers should also be asked to restate a few of the ways in which they could have done a better job with fewer casualties, breakdowns, or problems if they had used the ideas brought out earlier during the AAR.

To conduct a successful AAR, the leader must overcome his natural tendency to "take charge"—that is, to evaluate, correct, or just talk. Instead, he must develop the ability to maintain control both of himself and of his group, to ask questions, and then to listen carefully to the answers. Soldiers benefit more if they are prompted to learn from recalling and retelling their common experiences than if they are told what they did.

A good after action review makes the difference between training lessons learned and training lessons lost.

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Another Look at Phase Lines

CAPTAIN DAVID G. TATMAN

A phase line, according to FM 101-5-1, Operational Terms and Symbols, is "a line used for control and coordination of military operations...usually a recognizable terrain feature extending across the zone of action."

Thus it is that we define one of the most basic graphic control measures. In wooded terrain, or rolling terrain cut with ridges, streambeds, distinct roads and trails, this is a more than adequate definition and description. But only a part of the world has terrain that fits this description. How do we as professionals adequately phase operations in wide open expanses? How do we phase desert operations? How can we best enable our subordinates to recognize phase lines? And do we think of night operations when choosing phase lines?

I would like to propose another way of planning phase lines that gives commanders some alternatives to the usual terrain-following method. It is simple; it can easily be adapted for night operations; and it allows the accurate transmission of graphic control measures to subordinates by radio, something our present system does not offer.

Phase lines can be straight. If there are no recognizable terrain features that extend across the zone of action, a leader must look outside the boundaries and select prominent terrain features that are clearly visible from the zone of action. These include peaks, valleys, draws, spurs, and saddles. He can draw straight lines across the zone that join two such terrain features and thereby produce a pair of points (called a point pair). The actual phase line is the portion of the line connecting the points that falls within the lateral boundaries of his zone.

This kind of phase line is easy to recognize. By simply raising his arms and pointing at the two features, a soldier can gain a good appreciation of his position in relation to the phase line. With peaks and saddles that are clearly visible against the skyline, even night navigation to and identification of the phase line is simple.

Valleys, draws, and spurs can also be used effectively in the daytime or with lunar illumination, but these are harder to identify under low-illumination conditions.

One method of overcoming these difficulties is to plan illumination marking rounds down the sides of the planned advance route. Firing illumination beyond the ridgelines, thus backlighting the horizon, also allows for a clear determination of prominent terrain features. It also avoids illuminating friendly troops, reduces the highlight cutoff or washout of night vision devices, and may well act as a partial deception measure. If these marking fires are planned as part of an overall harassment and interdiction fire plan, even their intent can be concealed from the enemy.

Obviously, this system isn't perfect. It won't work when smoke, fog, or clouds obscure the features. In these conditions, though, pace count or odometer readings—along with time travelled, speed, and azimuth from the last identified phase line—can help to locate positions through dead reckoning. And, if breaks in the smoke or fog allow extended visibility, this system allows for rapid, positive position identification. Helicopters can also use it.

Of course, it won't work in wooded terrain or extremely rolling terrrain with no prominent peaks. But the usual identification of terrain features can be used in this kind of terrain.

The technique works best in large valleys and on small plains with mountains as boundaries. The terrain at the National Training Center is a good example. Where no distinct features are visible on one flank, a modification using the magnetic azimuth to features on the other

flank can be used. But in such cases—moving along the front of a mountain range, for example—adequate stream drainage should provide enough terrain features for a leader to use in conventional terrain-following techniques..

In the proposed system, a leader can send encrypted grid coordinates by radio for the point pairs to connect, along with the name of the phase line. Then, his subordinates can post their maps accurately from the radioed information. This can be critical if an operation is especially successful and a breakthrough operation or pursuit takes a unit rapidly beyond its planned graphics.

This ability to transmit control measures could well allow commanders in an operation to exploit success rapidly while maintaining control of the successful unit. Under such conditions, boundaries could be designated as: "Ridge, NK123456 to NK124987, and ridge NK208439 to NK201975" and the phase lines could be filled in as follows: "PL Orange NK041522 to NK225498, PL Pink NK124618 to NK206597," and so on.

This would require either encryption or a secure radio net, of course, and the transmission times would be slightly longer than might be desirable, but only the phase lines that were needed immediately would be transmitted each time. Then, once the next to last line had been reached, two or three more phase lines would be transmitted. Realistically, at some point even the most successful unit would have to stop to resupply and rest, and at this point, additional, more inclusive graphics could be brought forward.

This system isn't a cure-all, but it is simple, and it can be readily adapted to normally featureless wide-open terrain in which position location is often difficult at best.

I have found it useful for desert warfare, where clear skies and limited vegetation allow the horizon to be seen from a long distance. Any leader who conducts operations in a location that favors this technique may want to try it.

Captain David G. Tatman has served in several platoon leader and battalion staff assignments in Korea. He has been a company executive officer and company commander in Hawaii, and is a graduate of the Engineer Officer Advanced Course. He is assigned to an infantry observer controller team at the NTC.

The Three M's of Morale

MAJOR CHARLES F. COFFIN III

We see, hear, and use slogans every day. The trouble with these slogans is that the good ideas they express quickly become just trite phrases, and we forget what they really mean.

Take "Leading and Caring," for instance. This excellent slogan was intended to remind us of the things we were taught early in our careers, but it quickly became "lead'n-n-care'n," and then just a blur of sound that we repeated, but paid little attention to.

Nobody is immune to the danger of forgetting the meaning of such slogans, but several years ago I came up with something that has helped me. I don't know when or where I developed this idea (and if I got it from someone else, I hereby acknowledge the debt), but for quite a few years I have been using what I call "The Three M's." I firmly believe that if a company commander can keep these Three M's straight, he can alleviate a good many of the troop problems in his unit.

The first of the Three M's is Meals. Always serve the best meal possible, given the tactical circumstances. Serve hot Class A's whenever possible and when not precluded by the training itself.

If you're running a Ranger team—in combat or in training—you probably can't serve that team hot meals, nor should you. And if you're running a survival exercise in which you want your people to live on snakes and bugs, fine. No one is going to be hurt by not eating much for 48 to 72 hours, *if that is the point of the exercise.*

If your company is one of those that are forward in the attack, MREs (meals, ready to eat) are fine. But if it's one of the companies forward in a static defense, you probably should be serving hot meals. And if your company is in reserve in the defense, I can't think of any reason why you should *not* be serving decent meals. Sure, it's a little more trouble, but your troops deserve no less.

It isn't a matter of coddling them. You know that the best training, the toughest training, is when you're so tired your teeth ache and your eyeballs burn. You feel you can't go on much longer, but you do. Your troops can't go much farther, but you ask them to go on—and they do. But what's the point of feeding them MREs when it has nothing to do with the tactical play? You've heard them say, "I don't have to practice to be miserable," and there's some truth to that, at least where food is concerned. The idea of feeding MREs just because you're in the

field doesn't make sense. So give your soldiers as good a meal as possible.

Pay attention to what your mess crew is serving and how they are serving it. Too many times I've stood in the rain watching the food on my paper plate blend together into an unpalatable mess because the people who set up the serving line didn't care where they put it.

Organize the serving line, even in inclement weather and consider how many servers you have. You can get a company-sized serving line under a shelter made of eight or ten poncho liners. You might be able to rig up a temporary eating area the same way, depending on the tactical situation. At least it's worth thinking about.

You may even enjoy your own meal a bit more, if you have time to eat it—after all your troops have gone through the line.

The second of the Three M's is Mail. Get your people their mail as quickly as humanly possible. There are some missions, of course, during which you probably can't get mail to your soldiers. This might include some Ranger missions, for example. But you can have it waiting for them on the extraction helicopter—or at the very least, at the first base where they off-load (not at the final one, if the trip has several legs).

On a two-week FTX, you might feel the soldiers can go that long without mail. And they probably can. But why should they? So long as it is not tactically necessary to keep their mail from them, get it to them as quickly as you can. It should be delivered daily—no delays! Make it the First Sergeant's job—or the XO's.

As with meals, it can be a real pain to coordinate the delivery of mail during a field exercise, especially with all the tactical play you have, the battalion commander breathing down your neck, and too many things to do and not enough time or people to get them done. It's easy to let the mail slide. But in the long run, you can't afford to make the troops wait for it.

Often, the only thing a young soldier has to think about on an exercise is how lonely and miserable he is. He may never have been away from home before, or he may have a wife and family he's worried about. Their mail to him can make a difference. He needs to know that they are all right, that they are making it until he returns, or that they are thinking about him.

In fact, mail can make a difference to all of us, no matter what our rank. You may have been lonely and miserable yourself at times. I have. In basic training, in AIT, in Vietnam, in OCS, and lots of other times and places, some of them fairly recent. You can act tough—I always did—and say it doesn't matter, but you know it does. And if it's important to you, it's important to your troops, whether they let you know it or not.

The third of the Three M's is Money. Never allow a pay problem to go unresolved. You can task the First Sergeant to take care of it, but it's *your* responsibility. Follow it up.

The money that is paid to your young soldiers and junior NCOs is not all that great for what you sometimes ask them to do. They often live a hand-to-mouth existence, especially at some of the more expensive duty stations. If the pay people make a mistake and "short" an officer or senior NCO $100 or so, he should be able to get by for a couple of months until he can get it straightened out. But to the young soldier, a pay error of $100 is a major disaster. He's too young to have much of a savings account built up (if he has anything at all), and he's probably just starting a family at a time when he can least afford it (just as we did). And he doesn't have the clout to get the problem straightened out quickly. Therefore, you, the commander, must provide him with that clout and get his pay fixed fast.

In fact, it is in your own self-interest to do so. If the soldier is out in the field and worrying that his wife can't pay for the baby's medicine or that the car is broken down and she can't get it fixed to get the baby to the doctor, his mind is not going to be on his job. If his mind is not on his job, he's an accident waiting to happen. And that's going to cause far more paperwork than fixing the pay problem would have.

It may be worse in Reserve Component units. I was once assigned as a training officer to a major Army Reserve command where it was standard for senior officers—majors to colonels—to spend two or three hours of a week-end drill trying to correct their own pay problems. And if the officers have that many problems, what is it like for the privates and corporals?

It might be argued that Reservists, being "only" part-time, can afford pay problems better than the Active Army

can. I doubt it, but even in cases where this is true, pay problems certainly affect retention.

It may sometimes seem like the people in charge of paying the troops just don't care.(Parachute riggers take a vow that they will jump with any parachute they have packed. If they have made a mistake, they will pay for it. Perhaps pay personnel should take a similar vow—if they make an error in a soldier's pay, the amount will come out of their pay until it's corrected.)

But as a commander, you have to care. If "the commander is responsible for everything his men do or fail to do," then you are responsible if one of your people fails to get paid. And so is everybody else in the chain of command. You have to force the issue and go to the next higher commander, if necessary, and your First Sergeant should also be helping and pushing. Active or Reserve, if there is a pay problem, it's got to be fixed, and fixed fast.

These, then, are my Three M's—Meals, Mail, Money. There are certainly other things a commander must do to take care of his people, but I firmly believe that if you keep these three areas straight, you will have gone a long way toward establishing credibility with your troops. You will have troops who will do anything for you, will follow you anywhere, because you have demonstrated that you will do what you have to do to take care of them. In short, you will have gone a long way toward creating a fourth M—Morale.

"Meals, Mail, and Money" is not just a cliche, and you mustn't let it become one. It's real and it's important. Maybe remembering the Three M's will help you remain conscious of more than just the slogan.

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The Company XO

CAPTAIN RICHARD D. HILL

In addition to providing "beans and bullets," a company executive officer (XO) has numerous other responsibilities and duties within a company—duties many of the soldiers in the company may not be aware of. In conjunction with the first sergeant and the commander, he provides those soldiers with the resources they need to conduct meaningful training in the field or in garrison.

A new company XO himself may not know the full extent of his duties. The Army has published many manuals, circulars, and pamphlets describing the duties of the company commander, the first sergeant, the squad leaders, and the platoon leaders. But no manual clearly defines the responsibilities and duties of the XO at the company level. The reason for this may be that many of an XO's duties in a company are prescribed by the individual commander to fit his own requirements. But the basic duties and responsibilities of an XO do not change. (See also "Man Without A Manual: The Executive Officer," by Major John R. Galvin, INFANTRY, March-April 1965, pages 53-61, and "The Company XO," by Lieutenant Colonel John R. Galvin, INFANTRY, November-December 1969, pages 34-42.)

The XO can be the one person at company level who truly communicates the commander's policies and orders. The first sergeant and the platoon leaders also have a role in this, of course, but nobody has a closer relationship with the commander than the XO.

Since the XO is the senior lieutenant in the company and has probably worked with the chain of command for some time, he probably knows a great deal about the first sergeant and the platoon sergeants and has come to know the platoon leaders through both professional and social interaction. And, as the senior lieutenant, he also probably has a feel for the commander's personality and the way he likes to conduct business. His input is essential to the commander's decision making process.

His advice to the platoon leaders is particularly important. They will come to him with ideas and suggestions before going to the commander. Some commanders make it a policy to have the platoon leaders brief the XO first on a training plan or presentation to smooth any rough edges before bringing it to him.

Knowing the commander's likes and dislikes, therefore, he can help steer the platoon leaders in the right direction. He can do this by holding informal sessions

with the platoon leaders and the functional area chiefs within the company. The commander will rely upon him heavily for advice in these areas.

The most common areas of responsibility for a company XO are maintenance, security, supply actions, ration control, accounting, and tactics. He will do well to make a list of these and keep it handy.

A new XO's first step after moving into the job should be to set aside some time with the commander and the first sergeant so that his areas of responsibility can be defined. A first sergeant is sometimes sensitive about having a young lieutenant step into his territory, no matter how well-meaning the lieutenant might be. And in this meeting, the XO can learn what the commander expects him to do to support the company's goals.

Most commanders have only a limited amount of time to spend on such administrative matters as ordering rations or scheduling training areas. These requirements are no less important than the tactical deployment of the company, however, so they are areas in which the XO can take some of the pressure off his commander.

PRIORITIES

After meeting with the commander and the first sergeant, it is time for the XO to take the list of duties into his office and establish some prioritites. His priority list of roles and duties might look something like this:

- Second in command.
- Unit Fund Manager/Council Representative.
- Dining Facility Accountable Officer (company facility).
- Schedule training areas.
- Motor maintenance officer.
- Class I, III, IV, and IX manager.
- Prepare DD Forms 2406 and 2407.
- Unit calibrations officer.
- Physical security officer.
- Tactically employ the combat trains.
- Attend battalion plans meeting.
- Unit load planner/logistician.
- Review unit short range and long range training plan.

In areas outside the continental United States, the following would be added to this list:

- Rations control officer.
- Payroll officer.
- Maneuver damage control officer.

The easiest way to accomplish all of these tasks and the others the XO may be assigned is for him to develop a simple and logical system that gives him easy access to the information he needs.

To keep track of reports, the XO should prepare a notebook that outlines the requirements for each, including how often it must be submitted and to whom. This will allow him to prepare reports on time and will also help his successor in the job. This notebook does not have to be anything elaborate. For example, it can be as simple as a large three-ring binder that includes sample reports and the documentation needed to support them.

SECOND BINDER

As a company XO, I found it helpful also to prepare a second binder that held the following information:

- Current company strength roster by name, duty position, rank, and social security number.
- Serial numbers and types of weapons.
- Current unit DD Form 2406 reports.
- Current logistical support requirements—training areas, ammunition, rations.
- Special reports.
- Deferred maintenance on vehicles.
- Serial numbers and types of radio equipment.
- Items reported on DD Forms 2406 and 2407.
- Class IX items on order.
- Current calendar of activities.

This notebook allowed me to see my company's status and requirements at a glance. I took it with me to all battalion and company meetings and updated it as needed.

Although there is no formal staff at company level to help the XO, he does have at his disposal the knowledge and experience of the first sergeant and the functional area chiefs (communications, supply, NBC, and armorer). He should take advantage of their knowledge and make it work for him.

Once a week, the company commander will probably hold a company training meeting. It is from these meetings that the XO will receive an analysis of the current training as well as guidance for the next few weeks of training. During this meeting, the XO should brief the commander on the available resources for that training.

From the rough draft training schedule the commander gives him, he can then begin his logistical planning. He will now know what training areas and ammunition are needed by type and what additional support is needed from the battalion staff. Once he has developed a final packet of request documents, he can present them to the battalion support agencies. He will work closely with the battalion XO, whose primary function is coordinating the efforts of the battalion staff to support the goals of the battalion commander and the needs of the companies.

MEETINGS

The battalion XO normally conducts weekly meetings with the company XOs and the battalion staff agencies to complete training support plans and special activities. At these meetings a company XO can air all of his concerns about support that is needed or support that has been rendered.

He will also work closely with the battalion support platoon leader and NCO, who will give him additional transportation assets, Class III, IV, and VI supplies, and sometimes Class I supplies as well. In addition, the XO should develop a close working relationship with the battalion S-1, S-2, S-3, S-4, fire support officer, motor officer, chaplain, senior medic, and PA.

The company XO's goal in this process is always to transform the training his commander envisions into a logistically supported reality.

Once all the support requests have been submitted and all the plans made final, it is time for the XO to put his plans to

the test and move the company to the field. A considerable amount of this work is done, of course, by the company chain of command (platoon leaders, platoon sergeants, and squad leaders), but it is the XO's implied responsibility to ensure that everything goes smoothly. These responsibilities include making sure of the following:

- The equipment is loaded on vehicles.
- All of the sensitive items are inventoried.
- Maintenance is conducted on all vehicles.
- Reconnaissance is conducted on all routes.
- The communications equipment is operational.
- The commander's jeep is loaded and the heater works.
- All elements move on time.
- The appropriate classes of supply are available and packed.
- The training areas have been coordinated with the adjacent units.
- The command post and the combat trains are functional.

Once the unit arrives at the field site, it is the XO's responsibility, with the help of the first sergeant, to make sure the combat trains are set up properly. He can then turn the logistical aspects of training over to the first sergeant and the supply sergeant and focus his own attention on tactics.

He now becomes an integral part of the tactical plan, and the commander will brief the XO thoroughly on his intent and the concept of the operation so that the XO can be placed where he can best influence the outcome of the battle, or step in at the decisive point and continue the battle in the commander's absence.

The tactical plan itself will largely govern the way the commander uses the XO in the field. Even if he assumes a tactical role, however, the XO is still responsible for coordinating with the battalion tactical operations center, the forward area support team, and the battalion trains to see that reports are submitted and the flow of logistical support continues.

Along with the company motor sergeant, he must also request prescribed load list items and keep a close eye on company maintenance. If the first sergeant is not with the company, the XO must keep him and the supply sergeant abreast of the tactical situation so they can respond to the company's needs with logistical support packages.

Wherever the XO is used on the battlefield, though, he is always the second in command, the combat executive officer.

Captain Richard D. Hill served as a company executive officer with the 2d Battalion, 23d Infantry, 2d Infantry Division, and with the 4th Battalion, 23d Infantry, 9th Infantry Division. He is now assigned to the 2nd Brigade, 7th Infantry Division.

Soviet Snipers

EDITOR'S NOTE: This article is another in a recurring series prepared from unclassified sources by the Threat Division, Directorate of Intelligence and Security, U.S. Army Infantry Center, at Fort Benning.

The Soviets have used snipers successfully in the past and plan to use them in the future. During World War II, they formed entire companies of snipers and killed thousands of Germans.

Today, snipers are selected by company commanders from their best marksmen, and each motorized rifle platoon in a motorized rifle regiment has a sniper. For this job, the Soviets favor soldiers who have excellent vision and hearing, good memory, and quick reactions.

Sniper training is conducted periodically and lasts from six weeks to two months. Most of this training is aimed at ensuring that the snipers will perform properly in combat.

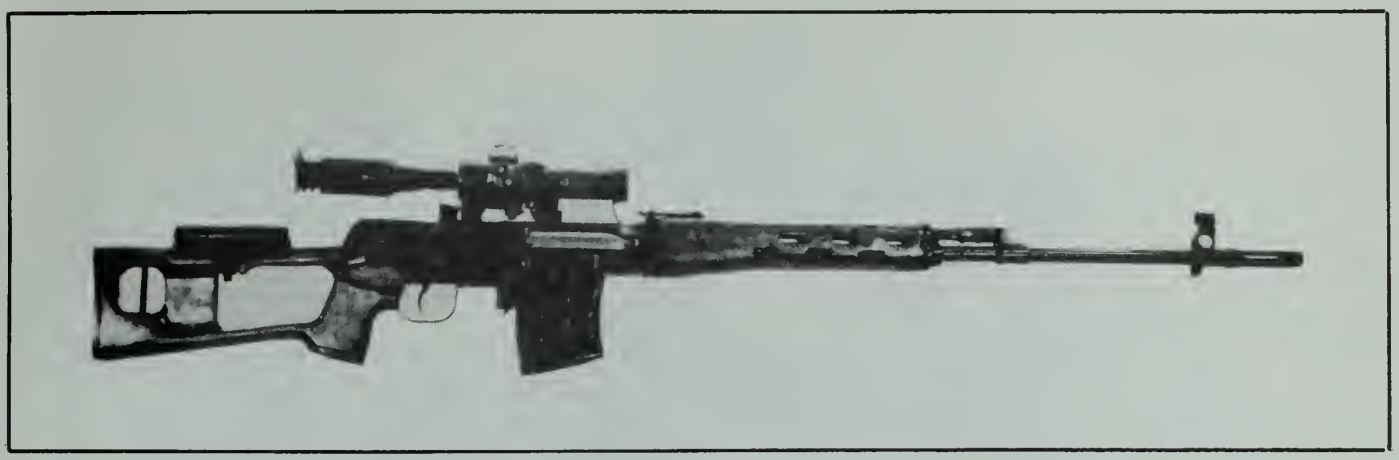
The sniper targets mentioned in the Soviet military press include enemy snipers, officers, forward observers, antitank crews, machinegunners, crews of disabled tanks, and low-flying helicopters. Initially, Soviet snipers concentrate on any targets that may be delaying their attacking units. The platoon leader gives the sniper the priority targets.

A sniper is usually paired with an observer, and this sniper team takes up covered and concealed firing positions. In the defense, the motorized platoon commander gives the sniper his missions and also identifies his primary and reserved firing positions.

A Soviet sniper must meet the following standards:

- Know his weapon, maintain it in working order, and fire it accurately.
- Observe the battlefield.
- Evaluate targets and engage the most important ones.
- Use the terrain properly for cover and concealment and position himself close to enemy positions.

The Soviets' sniper rifle is the 7.62mm Dragunov (SVD), and they have one sniper rifle per motorized rifle platoon. The SVD is a gas-operated semiautomatic weapon with a detachable box magazine and a combination flash suppressor and compensator that helps reduce the muzzle jump and flash. The standard bayonet fits on the SVD.



The PSO-1 optical sight on the rifle is a four-power telescope with an integral rangefinder, a battery powered reticle illumination system, and an infrared reconnaissance aid. The PSO-1 has a built-in range finder that is graduated to the height of a five-foot seven-inch person.

The SVD uses a 7.62x54R cartridge. It can fire light ball, heavy ball, steel core, tracer, and armor piercing incendiary ammunition, but is accurate only with the light and heavy ball ammunition. A sniper carries four ten-round magazines. The rifle has a maximum range of 1,300 meters and an effective range of 800 meters.

The SVD can be equipped with the NSP-3 image intensifier night sight to give the sniper a 500-meter effective range at night. The Soviets believe that their snipers will engage most of their targets at night as the enemy tries to move under the cover of darkness.

More information on the SVD can be found in the Defense Intelligence Agency's Small Arms Identification and Operation Guide—Eurasian Communist Countries, DST-1110H-394-76, 1 August 1983.

HEAVY-LIGHT OPERATIONS

MAJOR MICHAEL A. HAMILTON

Since the increase in non-mechanized infantry during the early 1980s, leaders in the Army have recognized that any future mid- to high-intensity war will be fought with integrated heavy and light units (non-mechanized infantry). By the mid-1980s published writings on heavy-light operations began to appear in professional journals and field manuals. Since that time, few articles have critiqued the doctrinal evolution of our manuals in light of experiences on recent exercises in Europe and the United States, including the National Training Center (NTC). These experiences have-validated some aspects of existing heavy-light doctrine and have brought to light new or modified concepts, tactics, and techniques that can be used.

The ideas presented here are limited to a heavy-light force that has as its basic elements an armor or mechanized infantry brigade headquarters, one or more armor or mechanized battalions, and a light infantry battalion (any type of non-mechanized infantry). The concepts are valid for similar forces throughout the world and are not tied to units training for or at the NTC.

The existing publications and journal articles already provide excellent outlines for planning and conducting heavy-light operations as well as a basis for further doctrinal evolution. Some of the more notable of these are "The Heavy/Light Concept," by Major General John R. Galvin (*Armed Forces Journal International*, July 1982, pages 66-80); "Heavy-Light Forces and the NATO Mission," by Lieutenant General John R. Galvin (INFANTRY, July-August 1984, pages 10-14); "Heavy-Light Operations," by Colonel William W. Hartzog and Colonel John D. Howard (*Military Review*, April 1987, pages 24-33); FM 71-2, The Tank and Mechanized Infantry Battalion Task Force (1988); and FM 71-3, Armored and Mechanized Infantry Brigade (1988).

In recent years, the conceptual and tactical evolution of heavy-light doctrine has resulted largely from experience gained during a series of heavy-light rotations at the NTC in 1988 and 1989 and one "focus" rotation in 1989. The focus rotation specifically examined the validity of current doctrine and techniques in the comparatively realistic environment of the NTC. Additional thoughts have come from other exercises, including recent exercises in Europe.

ASPECTS

Before focusing on tactics and techniques for integrating heavy and light forces, a review of certain aspects of heavy-light doctrine may be helpful.

The advantage of a heavy-light mix is, of course, its tactical flexibility. One problem, however, is that leaders who are confident in their ability to control a heavy force often have difficulty employing the light units to the best advantage in a combined force.

Generally, the light force can work in such restricted areas as forests, urban areas, mountains, and strongpoints, freeing the heavy force for decisive maneuver and combat. Our current manuals and exercises have defined some typical light force missions in the heavy brigade battle.

In the offense, for example, the light force might perform the following missions:

- Infiltrate by ground and air to seize restricted or key terrain and limited obstacles for the heavy force (implied link-up).
- Conduct disruption missions (raids, limited attacks) against counterattack forces, command and control centers, and artillery or air defense units.
- Conduct reconnaissance, counter-reconnaissance, and security missions to assist the heavy force.

In the defense, possible missions for the light force are:

- Establish strongpoints, shaping the battlefield and freeing heavy force units for reserve or counterattack missions.
- Conduct reconnaissance, counter-reconnaissance, and security missions, again boosting the heavy unit's efforts in critical areas and providing limited security for friendly obstacles.
- Conduct rear operations tasks to secure command and control (C2), combat support (CS), and combat service support (CSS) assets. Additionally, if utility helicopters are available, they can provide an air assault reaction force.

With the advantages that a diverse force provides, some inherent limitations are also to be expected, and as exercises have repeatedly proved, their implications can be severe. If the two forces do not have an opportunity to practice together, for example, their disparities in mobility and firepower will cause problems in synchronization. And whatever the size of the attached light unit, extensive CS and CSS augmentation must be provided by a higher headquarters (usually division or corps) to support it.

Generally, when a light battalion is attached to a heavy brigade, a typical augmentation package includes a light truck company (-) (25 trucks), a corps decontamination platoon, and a portion of the parent light division's forward area support company (FASCO). Some support from utility helicopters, 105mm artillery units, and Stingers may also be included.

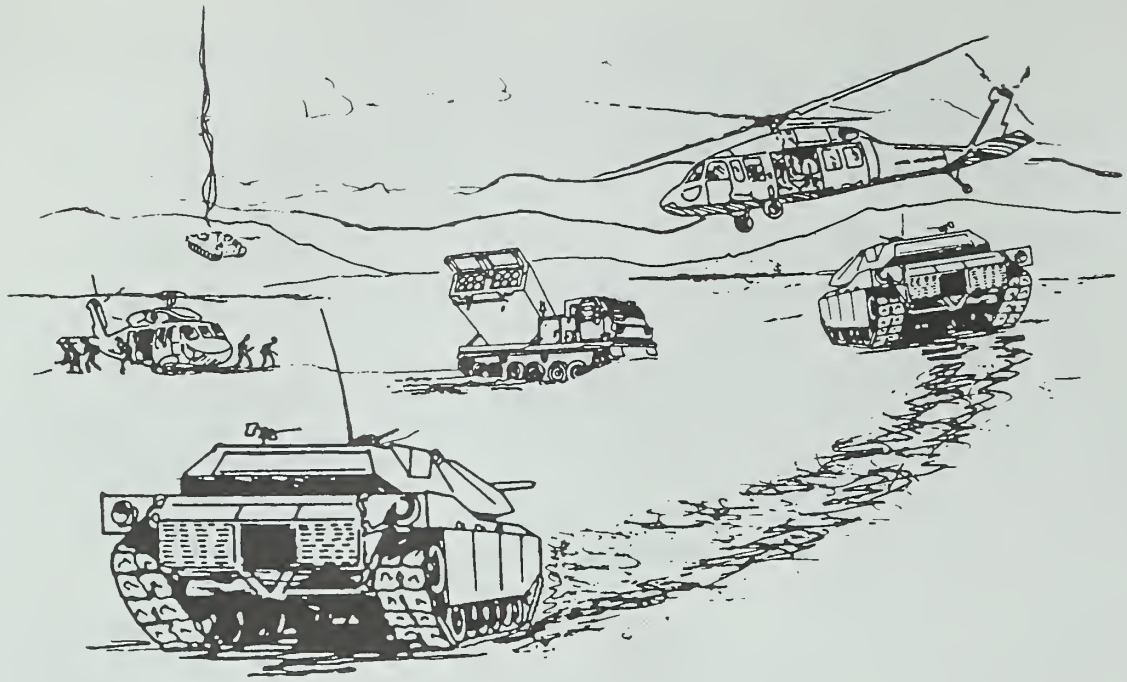
REVIEW

Given this short doctrinal overview, it is useful to review some tactics and techniques that have been used to overcome the synchronization, CS, and CSS problems. Some of the following ideas are described in the manuals, but many are new ideas used by units in recent heavy-light operations. For simplicity, these tactics and techniques are presented in the battlefield operating systems format.

Intelligence. In addition to the missions defined by the manuals, experience during the training exercises led to an added emphasis on reconnaissance missions. Because of their extensive training in dismounted tactical operations, light infantrymen proved to be effective scouts, especially when used in observation posts (OPs) to observe specific named areas of interest (NAIs).

Early in the planning sequence, when the brigade S-2 has prepared an initial intelligence preparation of the battlefield (IPB), heavy and light scouts as well as select light units can be sent out to cover the NAIs. Through ground infiltration or helicopter insertion, light soldiers can be positioned at critical OPs while heavy reconnaissance units cover areas where more mobility is required. Later adjustments in NAIs can be examined by the heavy scouts or by a second group of light scouts inserted by helicopter.

Light units employed in conjunction with heavy units have proved particularly effective in blunting the efforts of enemy reconnaissance elements. Heavy and light units, using thermal sights to track enemy reconnaissance elements, can guide light elements to enemy contact before the enemy knows he has been detected. Additionally, the number of OPs that a light platoon or company makes possible are a welcome human in-



telligence supplement to the counter-reconnaissance force.

In the defense, because of a light force's limitations in protection and antitank weapons, deceiving the enemy as to the type of force in a given location can be advantageous. Units have successfully used such ruses as digging tank emplacements in the light sector and running tanks through the area (especially at night). Multi-spectral close combat decoys, if they are available from the heavy force, may also be effective.

Conversely, in some situations it may be more desirable to allow the enemy to know the light force's location (for example, by helicopter insertion). If that sector is painted as being the defensive weak link, the heavy force can plan to counter expected threat attacks through the light force.

Maneuver. FM 71-3, Armored and Mechanized Infantry Brigade, states, "Divisions normally task organize brigade-size heavy-light units; task organization can also be used at lower levels if METT-T dictates." More emphasis should be given to task organization at lower levels. In fact, when developing a course of action, planners should *routinely* consider task organizing heavy-light forces at battalion and even company level.

The best way to task organize (operational control or attachment) and the best mix of units will depend on the length of the operation, the enemy tank threat, and the size and dispersion of any constricted terrain (such as woods and built-up areas). As an example, a tank company should be placed under the operational control of a light battalion, whereas a light company should be attached to a heavy battalion. This difference is caused by the CSS capability (parts, fuel) of the controlling headquarters.

Leaders should also remember to task organize their CS assets, considering especially the needs of the heavy and light engineers, artillery, and air defense units. (These groups will be discussed further.)

If a METT-T analysis determines that the entire light force cannot be used in a more conventional manner, leaders should consider using part of the force for missions such as ambushes (using tank killer teams) in front of the forward edge of the battle area (FEBA) and as obstacle guides (for friendly or enemy obstacles). Behind the FLOT (forward line of troops), light infantrymen can be used for limited security at the BSA, the main command post, or the prisoner collection points. If utility helicopters are available, light units can also form air assault reaction forces.

Although the current manuals clearly state that the heavy and light forces should mutually support each other, exercises have demonstrated the difficulty of implementing this concept. Because of the differences in mobility and firepower, even in the planning phase, operations tend to degenerate into separate heavy and light actions.

Commanders, staffs, and liaison officers (LOs) must ensure that the light force is part of the heavy force's main effort and that it contributes to that effort from beginning to end. This interlocking of heavy and light forces should be included in developing the task organization, the maneuver plan, and the use of the CS and CSS assets. Particular problems to watch for include the following:

- Foot infiltration routes or attack axes that are so long that the light force is physically incapable of conducting its final assault.
- Long distances between heavy and light forces that prevent reinforcement by fire or unit movement (mutual support).
- No contingency plans in the event air assault operations cannot be conducted because of bad weather or equipment failure.
- Inadequate plans for extracting the light force in case of friendly failure.
- Direct and indirect target lists and obstacle plans that are not integrated or that are changed after the light force

has departed on infiltration missions and the like.

At the NTC, link-ups that don't take place within two to three hours result in the light force's suffering heavy losses, mostly from artillery. Although this short period may be peculiar to the NTC, it does demonstrate the importance of synchronizing maneuver. Units that are maneuvering to a link-up must be quickly followed by artillery batteries that are capable of supporting the light force with effective counterbattery fire.

Fire Support. Until the tactical fire direction system (TACFIRE) or a comparable system is issued to all non-mechanized units, the problems of mixing voice fire missions with digital fire missions on the fire support net will continue. The overcrowding that results must be planned for and managed by the net control station. If extra radios are available, separate voice and TACFIRE nets may be a solution. Since indirect fire is the fastest way to reinforce a light unit, this problem must be resolved while the fire support plan is being developed.

ALLOCATE

If both 105mm and 155mm artillery pieces are available, the brigade fire support officer (FSO) may find it useful to allocate type missions to a particular cannon and its basic load—for example, the 105mm would fire close support missions while the 155mm fired deep and counterbattery missions.

When planning helicopter joint air attack team (JAAT) operations, commanders must remember that light force infiltration routes give the brigade a partially secured air axis across the FLOT.

Air Defense. The light force's air defense assets must be fully integrated into the brigade early warning net and the overall brigade air defense plan. Communications support may also be required for retransmission and the like.

Mobility, Countermobility, and Survivability. In the defense, special attention should be given to the light force's obstacle plan. Because of its weapons and lack of mobility, its needs are different from those of the heavy force. The brigade should direct obstacles for the light force sector but should allow the light force leaders to plan their exact placement in keeping with the brigade commander's intent. Since the light force will be relatively vulnerable when it is not dug in, it will often need heavy engineer support and the normal priorities of engineer work may have to change in the brigade as a result.

Class IV supplies for the light force must be transported by brigade vehicles and helicopters. Materiel must arrive early in the preparation process, and the planners should expect the vehicles to be detained for longer periods in the light sector. Since the light force has few vehicles with which to move supplies after they are dropped, the brigade vehicles must unload them exactly where they are needed.

Combat Service Support. The current manuals have recognized the brigade's need to be augmented with CSS assets when a light force is attached to it. This augmentation, coming from division and corps, should arrive along with the light force and should normally consist of trucks, utility helicopters, and some form of a FASCO.

Generally, the most difficult service support problems to overcome are the different supply and transportation methods used for the two types of forces. Especially at the battalion level, heavy and light units get their supplies in different ways: A heavy unit requests supplies and parts, then uses its organic vehicles to pick up the order (supply point distribution). A light unit exchanges end items (instead of repairing them) and receives periodic supply packages without requesting them and without using its organic vehicles (unit distribution). Both forces must quickly learn to compromise using the division and corps augmentation package in modifying their normal resupply methods.

To develop and coordinate this hybrid system, the need for a logistics liaison officer is obvious. Just as important is the need to locate the light FASCO with the heavy BSA. The heavy brigade, with the help of the LO and the light battalion staff, must be able to "push" water and all classes of supply to the light unit. The light unit S-4 or support platoon leader must be equally prepared to use the heavy force's standard requisition procedures to order the supplies that have been omitted.

Transportation planning is probably the single greatest CSS problem that faces a heavy-light force. The light force and its division or corps trucks—and perhaps additional utility helicopter support as well—should arrive in the brigade area at the same time.

TECHNIQUE

An effective technique is to split the trucks into two groups. One group is left at the BSA under the control of the forward support battalions to move materiel from the division support area to the BSA. These trucks are on call for the light battalion as they are needed for moving troops or supplies.

The second group of trucks is used to form an ad hoc "heavy" support platoon for the light battalion. These trucks, under the control of the FASCO or the light battalion's S-4 or support platoon leader, work within the existing brigade supply point distribution system and can also provide limited troop transportation.

Organizing and using the ad hoc heavy support platoon requires training and experience. Considering that this won't always be possible before deployment, the basic heavy LOGPAC (logistical package) techniques, at least, should be included in the light battalion's standing operating procedures.

Any helicopter augmentation the heavy-light force receives should be quickly integrated into the total supply effort. The helicopters can be used for routine or emergency resupply, medical evacuation, and troop movement. Again, the liaison officer can help by recommending ways to use the lift capability properly.

To be effective in the heavy environment, light infantry units

must carry all of their authorized equipment (Dragons, Vipers, M60s, SAWs). The light force's soldiers will find it difficult to move around the battlefield and still have the energy to complete their mission, especially if their units are understrength. This problem can be eased if the light force is given additional trucks (from the corps support package) or perhaps any tracked vehicles (with drivers) that the heavy force cannot fully man. These vehicles, carrying the light unit's equipment and supplies, follow and move up when the units reach their objective, or whenever they need to be resupplied.

Additional logistics considerations include the following:

- A plan must be developed for effectively establishing casualty collection points in the light sector. Medical evacuation from these points will require some combination of tracked and wheeled vehicles (and utility helicopters, if they are available).
- In the defense, Class V supplies must be prestocked in the light area. In the offense, plans to move ammunition forward by air or ground must be established. This is especially true for antitank weapons, mortar rounds, and Stingers.
- The heavy brigade must ensure that the light force's unique ammunition requirements are available at its ammunition transfer points (ATPs) and included in the light resupply plans (60mm mortar rounds, for example).
- Water and ammunition pallets should also be available for emergency resupply of the light units. Contingency plans for air and ground delivery should be updated regularly.

Command and Control. Once the proper missions for the light units have been identified, their coordination and synchronization with the heavy units becomes the essence of the heavy-light integration problem. Units have found that locating their main CPs together and exchanging tactical SOPs is a partial solution. When the heavy and light units have not habitually trained together, however, the heavy and light force liaison officers are the key to solving the problem.

While the heavy and light commanders are fighting today's battle, their less experienced staffs are planning tomorrow's. It is during the initial planning that the presence of an experienced and senior light force liaison officer at the heavy brigade main CP is essential. With his broad knowledge of light force capabilities, and of the brigade commander's intent, he can assist the brigade staff in developing an integrated heavy-light battle plan. The light LO can also ensure that there is a common understanding of terminology, missions, and graphics between the headquarters, although this is not nearly the problem it was a few years ago.

Because of the diversity of his tasks, the light LO should be at least a senior captain and should be provided to the light headquarters as part of its augmentation when attached to the heavy brigade.

Almost as important as LOs is the light force's need for FM radio, secure radio, and retransmission support to function effectively in the heavy brigade's nets (command, intelligence, FSO, and the like). This is especially true during air assault and infiltration missions and in rough terrain. Light scouts, when they are conducting reconnaissance or occupying distant OPs, also need this support.

Additional control measures will often be needed to prevent the mixing of units and the resulting confusion and possible fratricide. Especially during a link-up, restricted fire lines or areas, and no-fire areas, must be planned and used. The participants must clearly understand actions on the objective, unit sectors, and the like.

If chemical warfare is likely in the heavy-light force's area of operations, several other problems must be considered during planning. If chemicals are used on the battlefield, the effectiveness of the light force will be seriously reduced. Because these units do not have as much detection equipment as the heavy force, they are more likely to walk into contaminated areas, and once contaminated, they lose much of their ability to continue moving. Because the light units do not have the decontamination assets that are available to a mechanized force, time must be allowed for the decontamination section to be brought forward to decontaminate the unit. In the interim, contingency plans must be developed for the evacuation of any wounded soldiers who may also be contaminated.

Depending on the chemical threat, leaders should consider augmenting the light force with the necessary detection and decontamination equipment, along with the vehicles to carry them. To reduce the weight of the soldiers' loads, the second NBC suit and second mask filter for each should be kept on pallets at the battalion administration and logistics center. Contingency plans for the delivery of these pallets by ground or air should be updated regularly.

It is clear that recent experiences with heavy-light forces have largely validated our existing doctrine. The new aspects of doctrine, tactics, and techniques that have been described here will continue to evolve during future heavy-light experiences, and the ideas that are validated will eventually make their way into our doctrinal manuals. We continually prove that we have much to re-learn before the next war when light infantrymen will again ride on tanks.

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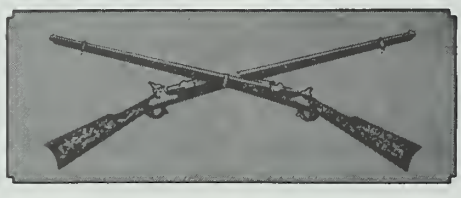

LIGHT INFANTRY SCOUTS IN THE DESERT

CAPTAIN ALLEN L. TIFFANY

During its training at the National Training Center (NTC) in October 1988, the scout platoon of the 4th Battalion, 21st Infantry, 7th Infantry Division (Light), experienced both successes and failures. As the leader of that platoon, I would like to share some of the tactical lessons we learned from working in a desert climate against an aggressive and doctrinally correct opposing force (OPFOR).

Success or failure at the NTC, like success or failure in combat, is a function of the training that is conducted before the first brush with the enemy. Fortunately, in March 1988 our battalion was given an opportunity to participate in an exercise with the U.S. Marine Corps at 29 Palms, California, and these days in the desert taught us some key lessons:

Visibility. It is exceedingly easy to underestimate distances in the desert both during the day and at night. A moonlit night in the desert is astonishingly bright and we found that even the smallest light is visible as much as ten kilometers away.

Soldiers' Loads. Soldiers should carry the absolute minimum. (This is often said but rarely done.) One way for a leader to accomplish this, if he holds his subordinates' judgment in high regard, is to allow them great latitude in what they carry. Although this is a notion that runs counter to popular thought, it will work if the leaders rigorously establish and enforce absolute minimum loads. Water, radios, and binoculars always have priority.

Basic Skills. Navigation, communication, and camouflage are vital. Soldiers must be familiar with the communications equipment and must be able to send fast, concise SALT reports (simplified SALUTE reports that our S-2 developed). Passive as well as active camouflage is important. To accomplish their mission, scouts absolutely must not move during the daylight; any movement is easy to spot in the desert.

Because of these lessons, we returned to Fort Ord with a better understanding of how to operate in such barren terrain. Over the next few months we tried to focus on how we could do things better the next time we entered that harsh climate.

During the summer before our scheduled rotation at the NTC, our scout platoon was given an opportunity to go there and augment the NTC's two OPFOR motorized scout platoons during training and to learn from these experts.

The most important thing we discovered from this partnership was that the OPFOR does not have any unfair advantages. (We had heard of the resounding success the OPFOR units regularly achieved against their guests during each rotation and were suspicious.) Their only advantages are their intimate familiarity with the terrain and the luxurious amount of time they get to deploy to the field.

Tactically, we were impressed with the OPFOR scouts' aggressiveness and with how deep they were willing to go into enemy sectors. It was not uncommon for our scouts (in conjunction with and under the guidance of the OPFOR scouts) to link up with the Army Force (ARFOR) units moving around the battlefield and follow them to the deepest points of their sector. Once there, we would mark our maps, call in the requisite reports, go to minimum manning, and then get some sleep while the ARFOR units labored through the night to stop the penetrations that had already occurred throughout their sector. As the OPFOR attack began with the rising sun, we too

would initiate our operations. We controlled artillery fires throughout the depth and width of the ARFOR's position and then moved around destroying targets of opportunity with medium antitank weapons and small arms fire.

We were quite impressed by what we saw during this training. Audacity and simplicity, with a healthy dose of good tactical sense, are the hallmarks of the OPFOR scouts, and these were lessons we all took to heart.

As October arrived, we prepared to deploy. Several days before we were to board the buses, the battalion commander assembled the scout platoon to brief us and give us a final insight into his overall concept. For the benefit of the junior members of the platoon, he also included a detailed class on the mechanics and dynamics of the entire intelligence preparation of the battlefield (IPB) process. This gave the soldiers a sense of being a part of the larger battalion operation.

We deployed to the NTC with 20 men and two HMMWVs (high mobility multipurpose wheeled vehicles), which were provided when the motorcycles that the platoon is authorized by the MTOE could not be taken to the NTC because of safety considerations.

The platoon, as finally constituted, consisted of three three-man reconnaissance teams, a four-man headquarters team, and four men with the two HMMWVs. Although our goal had been to keep the reconnaissance teams at a strength of four men each, injuries prevented us from ever having a team of more than three.

EQUIPMENT

Each dismounted team, including the headquarters team, was assigned M16s, one M203, two AN/PRC-77 radios, two AN/PVS-7 night vision goggles (NVGs), one AN/PVS-4 NVG (except for the headquarters team), one AN/PAS-7 thermal sight, and one pair of binoculars. The vehicle team had mounted AN/GRC-160 radios, two M16s, two M249 machineguns (SAWs), and four AN/PVS-7s.

Given my previous comments on soldier's loads, this may seem like an extensive equipment list, but the dismounted teams actually carried little of this equipment. I required each team to carry only two AN/PVS-7s, one radio, and their binoculars. Depending on the situation, they might also carry a second radio or the thermal sight. The soldiers also carried chemical protective overgarments (MOPP suits), water, and rations. Each HMMWV had a footlocker in which the squads secured the items they chose not to carry.

(As we discovered after the first night we tried to use it, the AN/PAS-7 is generally ineffective in the desert because of the way the desert heats up and cools down so uniformly. We never again carried these sights anywhere except in the vehicles.)

We conducted a METT-T analysis (mission, enemy, terrain, troops available, and time) before each mission to determine what equipment would be carried. To meet every conceivable situation that might arise, the men would have had to carry all of their assigned equipment. But I believe a scout is accomplishing his mission if he can get to where he needs to be and can communicate with his platoon headquarters. To get the men there, fresh and oriented on their mission, I was willing to risk allowing them to go without some of the "nice to have" equipment.

After extensive discussion, we hit upon a concept of employment that served us well throughout the rotation. At the earliest moment after we received the brigade warning order, usually immediately before or after an after action review (AAR), the battalion commander, the battalion S-2, and I would huddle over the map. On the basis of his training and the available information, the S-2 would quickly template the expected enemy dispositions. Then the commander would give me his priority intelligence requirements.

In the offense, our mission was to confirm the S-2's template and to pinpoint, exactly, specific weapons, vehicles, and obstacles. Conceptually, our goal was to provide guides from the company assault positions to the objective; the three rifle companies themselves were responsible for the reconnaissance and security of their route from the line of departure to the assault position.

In the defense, we were to man forward observation posts and watch and control indirect fires on the mounted and dismounted avenues of approach.

ORDER

Armed with this information, I would return to the platoon, which would have been pre-positioned near the AAR site to shorten my travel time. The squad leaders would have completed their troop leading procedures while I was in the AAR (which generally lasted two hours) and would be ready for my warning order. Having oriented the squad leaders, I would use the next 30 to 60 minutes to prepare an operations order. Once the order was issued, we had several hours to finish our preparations and sleep before crossing the line of departure (LD).

We used the vehicles, completely blacked out, to take us to within two to five kilometers of each team's designated position. Most nights we would cross the LD between 2200 and 0300. The men were armed, ready, and combat loaded. We developed and rehearsed techniques for fighting from the vehicles. Having worked with the OPFOR scouts earlier, we were aware that virtually every night we would be passing their elements headed into our rear areas just as we were headed into theirs. We feared a mounted gun battle between blacked-out vehicles as they passed scant feet apart.

Our fears were justified one night while our two vehicles were dropping off the teams. At 0100, an OPFOR BRDM reconnaissance vehicle passed our two-vehicle convoy. All three vehicles were blacked out. A brief but intense firefight resulted, and although the MILES buzzers beeped, the evaluators did not assess any casualties. The BRDM initially gave chase, but our aggressive and pre-planned response caused it to break off the engagement.

The HMMWVs were valuable because they not only allowed

us to get to positions that would have taken us all night to reach on foot, but also allowed us to choose positions deeper in the OPFOR's rear areas than we could have if we had walked in. We found during our own operations, as we had seen in those of the OPFOR scouts, that if we got deep enough into the enemy's rear area, his security measures diminished dramatically. That is to say, this is one of the safest places to be. Once we were at our designated drop-off points, the teams walked the rest of the way in.

We had two self-imposed limitations: We had to be in position before BMNT (beginning morning nautical twilight) and in the sector at least 24 hours before the battalion entered it. Without our two dedicated vehicles, we would never have been able to accomplish what we did.

During one operation we decided to go as deep as we possibly could, partly out of daring and our growing confidence and partly because it made good tactical sense. Because of an NTC-imposed restriction, however, we could not cross the LD before 0500. That allowed us only about 90 minutes to travel 15 kilometers to our designated drop-off points before the sun came up. This was particularly dangerous; although the teams could get in under cover of darkness, the vehicles would have to get out of the area in the morning light. Fortunately, they were able to do so without incident.

Not only were we able to get in position, but when the sun came up our three reconnaissance teams found that they were spread so far and wide in the enemy's rear areas that we had several views of his entire sector. One team was on the high ground above a reserve tank company "hidden" in a series of gullies; one team was in the rocks above the OPFOR tactical operations center (TOC); and one team was in the rocks above the road the OPFOR was using for resupply. The headquarters section was high in the crags of a ridge line with a perfect, uninterrupted view of the defensive belt the OPFOR was building.

Needless to say, we were able to give our battalion a clear picture of the enemy's defensive posture, in depth, long before the battalion and the brigade crossed the LD. Our battalion S-2's template of the enemy, our effective map reconnaissances before insertion, our aggressive insertion methods, and a certain amount of luck during the insertion made the difference.

Normally, after arriving in the positions we had chosen during our map reconnaissances, we would carefully study our assigned sectors. I allowed the squad leaders great flexibility in adjusting their positions, so long as they met three criteria—clear observation of their specifically assigned sectors, a place to hide during the day, and good FM radio contact with at least one other element in the platoon. This may seem like a lot of latitude, perhaps too much. The only justification I offer is the great dedication to mission accomplishment and the sound tactical judgment of the noncommissioned officers assigned to the platoon—and the overall success we achieved.

Once in position, the scouts completed their communication checks. Then each man used some small pieces of desert

camouflage net that he carried to construct a hide position. The nets, roughly six feet square, were generally strung two to three feet above the ground. The net defined the living space for the two or three men under it for the entire time the sun was up.

We spent the rest of the day observing and sending SALT reports. If we did all the steps correctly, we would lie on our bellies for the rest of the day, binoculars glued to our eyes, watching the enemy from hidden vantage points. Although this process was often tedious, it was nonetheless rewarding.

Moving rapidly across the FEBA immediately after the conclusion of each operation did create a problem, though. We often had to do this without indirect fire support, and this is a dangerous way to live, especially for a scout who depends upon indirect fire as his primary means of firepower. On one occasion, we had to wait 12 hours for an artillery mission that we needed to destroy an OPFOR observation post.

This is a problem that is not easy to solve, but one that must be addressed. Scouts who can effectively direct fires can significantly influence (disrupt and redirect) OPFOR operations. The battalion FSO must be given an opportunity to develop a solution to this problem through his intimate knowledge of the indirect fire community's methods of operation. Regrettably, this lack of indirect fire support did not come home to us until our last mission. By the time we realized that we should have been including the FSO in our pre-mission huddle (with the battalion commander, the S-2, and me), our rotation had ended.

Another problem involved communications. We had been briefed to expect the OPFOR either to jam our radio transmissions or to use direction finding equipment to locate us. When we had completed five missions without being jammed or located, we became overconfident. During the sixth mission, after having been in position for six hours and having sent in an extensive number of reports, one squad leader entered the platoon net and excitedly called out the code word for "I am being overrun and am going off the net." Within two hours both of the other two teams also called in that code word. An hour later, the headquarters section was also overrun. Because of OPFOR radio direction finding equipment and a dedicated reaction platoon, the 4th Battalion, 21st Infantry's scout platoon had ceased to exist 12 hours before the battalion crossed the LD.

From this experience, we learned to restrict our radio transmissions. We took some specific steps, after coordinating with the men in the battalion TOC, to prevent our radio traffic from giving us away again.

First, we began changing our internal frequency every six hours and our frequency with battalion every hour. And we developed a method of answering calls by breaking squelch. For instance, breaking squelch twice meant "yes," or "WILCO." Three times meant "No," or "Say again."

We refrained from sending all but the most critical reports during daylight. This allowed us to send the messages that had accumulated through the day in one or two long transmissions just after dark. Then, after creating such a distinct and strong radio signature from our daylight location, we moved under the cover of darkness to a new location.

We also began habitually designating one squad as the alternate platoon headquarters and assigning it the equipment it needed (KY-57 speech security devices) to act as such a terminal.

We quit doing radio checks as such obvious times as the top of the hour. Each squad now had a specific time for

sending its FM traffic. For instance, first squad would send its reports at 17 minutes past every even-numbered hour; second squad would send its messages at 43 minutes after every odd-numbered hour; and so on. Of course, the headquarters was always on the net to receive any emergency or high priority messages. Passive measures such as using directional antennas and the shortest length of antenna possible also seemed to help. Another possible method is to use two radios, if they are available, to send a message—that is, send on one frequency and receive on another.

Additionally, since half of the time when our scout elements were killed it was by "friendly fire," one more point must be made. The battalion S-2 absolutely must be aware of the exact scout locations at all times. Further, he must keep higher headquarters up to date on these locations. The S-2 can do this either through FM radio or wire communications or through a liaison officer.

Even after the information gets to the brigade headquarters, it still must get to the brigade's elements. It was brigade artillery and AH-1 helicopters that consistently seemed to fail to understand where we were. And all too often this mistake was fatal.

In summary, in addition to the lessons we learned during our training with the Marines, we learned a few other key operational methods that light scouts must grasp if they are to do well in the desert—and in combat. I offer the following advice to other scout platoon leaders:

- First, the corollary to "Never move in the daylight" is "Move every night, at least once, if not two or three times."
- Develop intricate and sophisticated methods of defeating the OPFOR's ability to find you through your radio transmissions.
- Get out early. Use vehicles or helicopters if they are available, but keep in mind how vulnerable you are in such transport; do not get lazy and try to have the vehicles take you to the exact spot where you want to be.
- Always go deep, very deep.
- Always issue good, fast warning orders.
- Make sure your men know and understand the battalion's mission. If they do, they will do a better job of seeing and reporting the critical items.
- Count on your NCOs and men to get the job done; they are probably better than you give them credit for being.
- Meet often with your fire support officer and S-2 to make sure they understand not only the way you operate but the way you think.

As a final note for anyone who is headed to the NTC, or to desert combat (or to any form of combat, for that matter). James McDonough's *The Defense of Hill 781* not only catches the essence of the NTC in an exciting and enjoyable story of combat there, but he concisely relates the lessons learned after each battle. All too often, "Lessons Learned" can be cumbersome and slow reading, but his lessons are short and clear. If I were going back to the NTC, I would copy them and keep them in my pocket. I was particularly impressed because they were almost exactly the same lessons my own battalion had to learn after arriving there.

I hope that these kernels of truth we discovered at the NTC will be valuable to other light infantry scout platoons that are preparing to train in the desert.

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SYNCHRONIZATION
A TRAINING PROBLEM

CAPTAIN PETER A. HANSEN

Many of the artillery units training at the National Training Center (NTC) have difficulty synchronizing fires. That is, they have trouble coordinating their efforts with those of the infantry and armor units.

The major problem with synchronization of fires is that artillery and maneuver forces train separately, not together. Usually, when artillery units shoot actual artillery rounds, they are out of sight and out of mind so far as the maneuver forces are concerned. And when artillery units do train with maneuver forces, the training normally involves only their fire support sections.

Another problem is that during simulated battles, artillery firing units play "notionally" or only in part. As a result, maneuver commanders develop unrealistic expectations about the capabilities of their fire support units. In addition, when dealing with fire support, maneuver commanders often depend upon the fire support officer to keep everything straight while offering little or no guidance. Consequently, these fire support people often plan artillery fires that do not adequately support the plans of the maneuver units.

When forward observers (FOs) and fire direction center (FDC) personnel do train together, it is not in an integrated environment. They shoot one mission at a time, under the control of a battalion FDC. Forward observers shoot from known observation points into known impact areas onto known targets. Batteries shoot from known firing points into static impact areas free of battlefield clutter.

Infantry and armored forces usually train separately on their firing ranges or in their maneuver areas. Artillery units do not get practice in firing actual rounds against simulated enemy maneuver forces who are supposedly battling friendly maneuver forces. Thus, artillery units do not train to fire live rounds against realistic enemy target arrays in conjunction with maneuver plans. And maneuver commanders training separately from the firing artillery units do not adequately synchronize their fires.

One of the problems is that our current ARTEPs (Army training and evaluation programs) actually promote unsynchronized training. Thus, there is a different ARTEP for each level of command and each type of unit. Although the Army does not intend its ARTEPs to be branch pure, units tend to execute them as if they were.

Usually, artillery units construct their ARTEPs so that artillerymen evaluate or test other artillerymen. For certain tasks, though, maneuver commanders might be better judges. Specifically, maneuver commanders could judge whether the fire support plans complement their maneuver plans.

Even when maneuver commanders do involve themselves in artillery ARTEPs, the fire support plans often are not fully evaluated, because artillerymen do not actually carry out the fire support plans (with actual rounds or simulated actions down to the gun line) in conjunction with maneuver operations. And if they do not, neither the maneuver commanders nor the artillerymen will ever know whether the plans they made would actually work on the battlefield. In short, maneuver commanders will not learn what they can realistically expect from artillery units; artillerymen will not know whether the fire support plans they have developed can complement maneuver operations.

PROBLEM

Since fire plans are not realistically evaluated during ARTEPs or verified with real rounds, fire support personnel tend to develop unmanageable plans. A common problem at the NTC is the large number of artillery targets that are planned. During one defensive battle, for example, a supporting direct support artillery battalion received 119 planned targets—14 group targets, six FASCAM targets, two series, 44 point targets, and five final protective fires. Because of the number of targets involved, the artillery battalion was unable to resolve a priority of engagement, and it fired at targets of opportunity instead.

The forward observers and fire support officers jammed communication nets, and the artillery battalion could not keep up with competing requests for fire. As a result, the battalion FDC was late in processing and firing some missions and had to ignore many others. By the time the FDC fired the ones it could, the enemy had already passed through the area. The unit delivered ineffective indirect fires throughout the area of operations, and the fire support personnel were unable to concentrate fires at the point of decision.

In another operation, during a deliberate attack, the direct support artillery battalion received 167 planned targets. Although these targets covered the objectives and the enemy's positions, the artillery fight was only marginally effective.

The battle started with a planned preparation of 1,092 rounds fired on an intermediate objective in support of the maneuver forces. The preparation successfully destroyed one enemy vehicle and 10 dismounted soldiers and forced one tank to move. But because the maneuver forces were not in position to launch their assault as the preparation ended, the enemy forces were able to recover and slow the attacking force.

As the battle progressed, fire support personnel fired on 26 targets of opportunity instead of following the plan. As a result of the large number of planned targets, nobody knew what the fire support plan was or which target to fire on next. Communication nets were again jammed with competing requests for fire.

Because of the resulting confusion and the delays in processing missions, screening smoke was fired between friendly echelons rather than in front of the lead company, as was intended. Observers fired several missions close to friendly forces and caused some casualties. Although artillery fires destroyed five enemy vehicles in various locations across the front, the fires did not suppress and isolate the objective. If the observers had been able to concentrate their fires on one enemy flank platoon, destroying its five vehicles instead of the five scattered ones, the friendly infantry and armored forces could have maneuvered on this flank to defeat the enemy in detail.

A few well-placed targets, therefore, are more effective than too many planned targets. Maneuver commanders can then receive fires at the right time and place on the ground for the best effect. This then becomes the fire plan and not a target list.

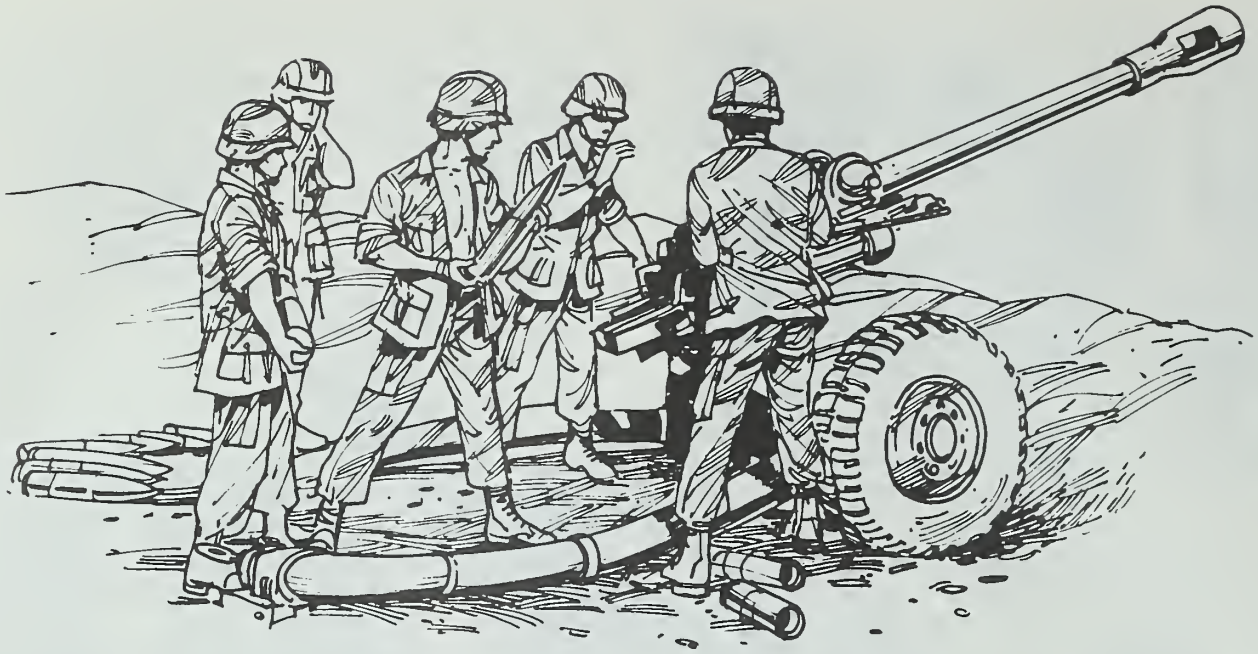
Commanders cannot achieve synchronized training, however, by allowing only the brigade, battalion, or company fire support teams to participate in maneuver training. Entire artillery units must participate. Fire support teams, training alone or without the full participation of supporting units, will never know whether their fire support plans can support the maneuver commander's plan.

INEFFECTIVE

Another problem is that because training is segregated, artillerymen often leave mortars out of their fire support plans or do not adequately define mortar targets or tasks. Even when fire support personnel do specify mortar targets or tasks, the mortar platoons usually do not shoot at the targets or accomplish the tasks. Mortar fires are therefore ineffective. Records show that in 18 percent of the battles fought at the NTC, mortars do not fire even a single round. At other times, when they do fire, their fires are either inaccurate or they fail to support maneuver actions on the ground. And as the maneuver forces surge ahead, maneuver commanders and fire support personnel often leave mortars behind and out of range.

Another aspect of fire support, close air support, is not usually well integrated into the battles at the NTC. Army personnel, during these battles, use close air support aircraft only when they show up or not at all, because Army personnel do not routinely integrate CAS into their overall plans.

The reason for this is that Army and Air Force units also train separately. It is a unique experience when CAS aircraft take part in routine training. It is also the exception rather than the rule when an S-3 Air requests planned CAS for an upcoming battle. Maneuver and fire support personnel almost never select specific targets, munitions, or areas of engagement for CAS aircraft.



In the cases where CAS is used successfully at the NTC, that success can be attributed to careful planning. The planners design airspace coordination areas to allow the simultaneous engagement of all weapon systems while allowing a relatively safe area for aircraft to maneuver in. Air liaison officers (ALOs) direct aircraft to engage specific targets. Commanders, FSOs, S-3 Airs, and ALOs plan to use CAS during specific phases or times in the battle. To use CAS effectively, all elements of the combined arms team must participate in training.

The use of "notional" units also diminishes the realism of play and fosters the development of unrealistic plans. Statistics at the NTC show that the number of missions artillery and mortar units execute increases as the percentage of notional play increases. Maneuver commanders therefore develop false impressions of what artillery and mortar units can do. When problems develop, maneuver commanders blame their supporting artillery units rather than their own unrealistic plans.

So long as fire support plans are not actually fired and firing units remain notional, there will be a lack of synchronization when it comes to realistic force-on-force play or during live fire exercises, and fires will not be supportive.

REASONS

Unfortunately, many FSOs are not well trained, for several reasons:

- Maneuver commanders do not get positive feedback for successful indirect fire missions in training exercises. Even when they work with their fire support officers to develop and execute good fire support plans, the resulting casualties often are not assessed. And when they are assessed, it takes too long to get the assessment processed and the numbers taken out on the ground. In fact, by the time indirect fire assessments have been processed, often the battles have moved to other areas or are already concluded by direct fire.

The NTC, with its technologically advanced marking and damage assessment system, comes closest to providing a realistic fire marking and damage environment, but commanders still do not get positive feedback for successful indirect fires. They therefore end up delegating fire support planning and execution to their fire support officers and offer little or no guidance.

- Suppression by artillery and mortar rounds is not easy to demonstrate in training. The explosive effect of real 155mm or 107mm rounds is quite different from that of artillery and grenade simulators, and individual soldiers react differently to simulators. As a result, maneuver commanders spend their time on other tasks, and their fire support officers remain untrained.
- When units simulate battle damage assessments during operations, many assessments take place out of sight of the maneuver commander, who is usually concentrating on the close-in battle. He therefore does not realize the positive effects of counterfire or deep fires. Unit training scenarios are rarely flexible enough to incorporate the positive effects of these types of fires. And again, because commanders do not know the full effect of their indirect fires, they devote their time to other things.

There are several solutions to these various problems. Some of them are simple; others involve major changes in the way the Army traditionally trains:

First, there must be more combined arms training. This means more than sending forward observers to the field to support maneuver forces. Artillery battalions, down to the gun section level, should participate in maneuver training.

To realistically duplicate real estate management, multiechelon coordination, and the time it takes to prepare batteries to fire, we need to avoid established firing points and shoot some of our live ammunition in support of maneuver operations. Maneuver forces need to see the rounds and experience the time it takes to get them on targets. Although units have a limited amount of training ammunition, the intelligent use

of what they do have can help maneuver commanders learn first-hand what artillery support really is.

For further realism, CAS can be added, but only if the planners request it through the proper channels. If battle planners request CAS properly, and if it makes tactical sense, it should be used.

Situational training should be emphasized over static training. Maneuver forces can practice small arms firing while the artillery forward observers fire artillery rounds in support of a realistic scenario. Combined arms ARTEPs should be conducted, not just artillery, armor, infantry, and air defense. The maneuver brigade may be the best focal point for all training in the field as well as in garrison. The division artillery would still provide quality control for the artillery.

Maneuver should be integrated into artillery training as well as artillery into maneuver training. Maneuver doctrine, battery defense, weapon skills, and patrolling are only some of the things maneuver forces could teach artillerymen.

At the same time, artillery units could teach the maneuver forces mortar skills and how to call for indirect fire. Artillerymen could also teach maneuver leaders fire support doctrine and the capabilities and limitations of their fire support systems. Training synchronization would improve, not only from knowledge but also from a closer working relationship.

In all exercises, notional play should be limited. If a system or unit is not present, it should not be included in the play. If units require notional play but the ammunition is not available, the notional units still should be required to exercise all the necessary actions, just as if they were firing real rounds.

CAPABILITIES

Commanders must make sure that notional play realistically represents a unit's actual capabilities and that the units stay within realistic rates of fire and ammunition expenditure. If players on notional systems fail to include the appropriate actions, controllers should reduce the effects of the rounds they fire accordingly. Otherwise, units will not achieve unity of effort and they will learn the wrong lessons.

All aspects of operations must be analyzed and evaluated. One technique that accomplishes this is the after-action review (AAR). To be sure an AAR covers an entire operation, the maneuver commander can key in on the battlefield operating systems (intelligence, maneuver, fire support, mobility and countermobility, NBC, air defense, command and control, and combat service support).

To be certain that the units are given a realistic review of their operations, the observers should be from outside the chain of command, and commanders at the next higher level should supervise the AARs. An AAR should be a learning experience, not a test.

Maneuver commanders must be taught what the artillery can do, and fire supporters at all levels must demand a clearly stated intent from maneuver commanders. The fire support plan must be an extension of the maneuver commander's plan.

Units that conduct fire support well must be rewarded. If the artillery is on target and destroys the enemy before the direct fight, the battle should be ended there and considered successful.

SUMMARY

In summary, if units synchronize their training, they can achieve synchronization in battle as well. Maneuver and artillery units can no longer train separately. For total understanding, artillery units need to fire artillery rounds in view of maneuver forces.

The Army needs to conduct combined arms ARTEPs to train all units in synchronized operations. Brigades must train as they will fight—as combined arms organizations. Artillery battalions must include maneuver forces in their training, and maneuver forces must include artillery battalions in their training.

Officers of all branches need to develop more of a combined arms mentality, and notional assumptions must be limited during training. If notional play is required, it must be well planned so that it will be as realistic as possible.

Command involvement in training is the only way to be sure fire support is adequately planned and realistically executed. The training of artillery units is too often inadequately synchronized with infantry and armor units. As a result, their fires are not as effective as they should be.

If we fail to correct the problems we have with synchronization, we can expect defeat on the battlefield—or, at best, a higher cost for each victory. To survive, we must train today as we expect to fight.

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Team Spirit
Light Infantry in Mid-Intensity Conflict

MAJOR JAMES H. SILCOX

Light infantry divisions are designed, first and foremost, to be used as quick-reaction forces in low-intensity conflicts. Their first priority is to get there fast and, ideally, to deter armed conflict, but they may also be called upon to fight.

The Army recognizes, however, that while light divisions are designed to defeat light forces in low-intensity conflicts, they must also retain their ability to fight in mid-intensity environments. This dual mission places an enormous responsibility on the leaders of these divisions.

The fundamental debate regarding the light division organization seems to boil down to one question: Can the battlefield skills, initiative, and leadership in the division offset its inherent lack of organic sustainability, mobility, and combat power? This issue is of some concern even in low-intensity conflict, but it is an overriding consideration in the application of light forces in mid-intensity scenarios.

The Army's intention to augment a deployed light infantry division with corps assets appears to be a logical response to the concern about the division's sustainability and tank killing capability. Whether or not such augmentation can realistically be expected within the 48 hours prescribed by Army doctrine—particularly in contingency areas where there is no U.S. military presence—is, again, a nagging question in low-intensity conflict and a question of survival in mid-intensity conflict.

Exercise Team Spirit in Korea annually tests the ability of the 25th Infantry (Light) to reinforce a forward deployed force in a notional mid-intensity conflict. During these exercises, the 25th Division receives augmentation from I Corps, the Eighth Army, and the Republic of Korea (ROK) Army.

Although the augmentation that can be provided to a light division in a mid-intensity conflict is paramount, it is the amount of augmentation that reaches the battalion level that will ultimately determine the success or failure of light forces.

In preparing to operate in a mid-intensity conflict such as Team Spirit portrays, what are the implications of the battlefield operating systems in regard to the necessary augmentation of a light infantry battalion? The recent experiences of one light battalion—the 4th Battalion, 22d Infantry—during one of these exercises suggest some answers.

Command and Control. There is one overwhelming aspect of mid-intensity conflict that a light infantry commander must confront immediately and master quickly if he is to survive: Heavier forces have an immense superiority in battlefield mobility. The resulting tempo of operations and the time and distance factors involved are much more of a shock to the command and control system of light forces than any firepower advantage an enemy motorized force may have over them.

The command and control of a light infantry battalion task force in Exercise Team Spirit is extremely difficult because of the increased distances and because the commander must provide guidance to the augmenting maneuver units as well as to the battalion's organic companies. The frequent and rapid displacements of the tactical operations center (TOC) and the rugged terrain of Korea further compound the challenge.

The battalion must plan on getting help for its single retransmission station, and must consider using relays, particularly if stay-behind forces are used. In certain circumstances, tactical satellite (TACSAT) communications may be required from higher headquarters. The AM radios that are now being fielded may offer a limited, but unsecure, solution.

In short, the major difference between low- and mid-intensity conflict in terms of command and control is the tempo of the operations. The possible increase in the number of maneuver elements, the speed of events, and the time and distance factors involved place stress upon the entire command and control system and a premium upon anticipating requirements.

Maneuver. Whether in offensive, defensive, or retrograde operations, a light infantry battalion must be augmented by other maneuver elements in a mid-intensity environment. These other elements consist primarily of armor, antiarmor, and aviation assets.

Armor units provide a mobile reserve, a powerful force for counterattack, a degree of mobility for some of the infantrymen, and a great tank-killing capability. In the offense, tanks provide the shock effect needed to penetrate enemy defensive positions that a light division does not have.

The TOW light antitank (TLAT) companies found in the Reserve Components are ideal augmentation forces for light infantry battalions. A TLAT company has 12 TOW systems and a mounted scout platoon.

The use of helicopters to insert, reposition, or extract soldiers is fundamental to light infantry operations in a mid-intensity environment. In the offense, some appropriate missions for light infantry units are air assault operations to seize key terrain behind enemy lines or to thicken the forward line of troops (FLOT). And here again, to conduct a link-up with the air assault elements, light forces must be augmented with tanks.

Fire Support. Fire support for light forces in a mid-intensity conflict does not differ measurably from that in low-intensity conflicts. In addition to 105mm howitzers, a light infantry battalion needs access to heavy artillery units, not simply for added range and firepower, but for the special munitions needed against heavier enemy forces.

Intelligence and Air Defense. The implementation of the intelligence and air defense systems at battalion level in a mid-intensity exercise such as Team Spirit is much the same as in a low-intensity exercise, although the division will certainly be augmented by corps level assets.

If one is available, a ground surveillance radar attachment may improve the battalion's early warning capabilities. But the battalion will surely benefit from information and intelligence acquired and disseminated by any deep battle units that may be augmenting or supporting the division.

Mobility and Countermobility. Corps level engineer augmentation may be the single most important support that can be provided to a light division in a mid-intensity environment, particularly in a defensive situation. It is difficult to argue (particularly in the defense) that any other operational system can increase a light infantry unit's staying power more than mobility, countermobility, and survivability. Given the restrictive terrain in Korea, heavy engineer support is the great equalizer for light infantry.

ENGINEER SUPPORT

While the organic combat engineer battalion of a light infantry division does excellent work, the requirement for tank traps, alternate and supplementary TOW and tank firing positions, and general countermobility is beyond its capabilities. Bulldozers and backhoes in large numbers are vital force multipliers for light infantry units in the defense. And any requirement for fording streams must depend not only upon heavy engineer augmentation but also upon a smoke-generating capability from corps level chemical units.

A light infantry force that has to conduct breakthrough and link-up operations must also have engineer as well as armor augmentation. In Korea, restrictive terrain, rivers, numerous culverts and bridges, and enemy obstacles can enable a heavy delaying force to slow a light infantry attacker to a snail's pace.

Combat Service Support. None of the operating systems in a light division is as dramatically affected by the shift from low- to mid-intensity operations as is combat service support (CSS). Light infantry units must plan for large and frequent displacements of the trains and the TOC, rapid transport of troop units on short notice, long and time-consuming lines of communication and the need to anticipate all types of CSS augmentation to meet these challenges.

Battalion combat trains in a low-intensity conflict exercise, for example, may have to displace only every day or two over a five-to-eight-kilometer distance. In Team Spirit, however, the battalion encounters time and distance factors that the CSS system may never have imagined.

Whether in the offense or the defense, light forces must be able to offset the mobility of their heavier opponemts. The only way to do this is to use a combination of trucks and helicopters to move soldiers and equipment. To move its equipment, a light infantry battalion needs at least six trucks under its operational control, either two-and-one-half-ton or five-ton. (During Team Spirit, these were provided by the host nation.)

One of the trucks should be attached to the main command post and the others to the combat trains. One truck per rifle company should always be loaded with A-bags and NBC protective clothing (MOPP gear). (The need for A-bags is critical in a cold-weather environment like Korea.) One of the other two trucks should be used to carry the battalion's diesel fuel bladder and the other to carry ammunition.

Since these five additional trucks, except in emergencies, are always loaded with their Class II, III, and V supplies, they obviously cannot be used to move troops. Because of the distance between the brigade support area (BSA) and the forward line of troops, therefore, commanders must plan to use division support command trucks assigned to the BSA for this purpose.

Planners must also anticipate concurrent requirements for transportation for the rifle companies, the main CP, and the combat trains. A good combination—assuming the trucks and helicopters are available and the weather permits air operations—is to use helicopters for extracting the rifle companies that are last in contact following a rearward passage of lines, and trucks for moving the reserve unit and CSS assets.

Link-up with air assault elements in the offense and stay-behind forces in retrograde pose special CSS challenges. A

link-up in 48 to 72 hours should be a reasonable objective. Even then, unless adequate cache sites were planned (and were not discovered by the enemy), water and ammuition will almost certainly have to be resupplied by container delivery or helicopter sling loads to forces that are staying behind or conducting an air assault. Stay-behind forces may have to operate without resupply for 7 to 10 days or more. During Team Spirit 88, one rifle company in the 4th Battalion, 22d Infantry, conducted a successful and undetected week-long stay-behind operation supported only by cached Class I and V supplies.

The distances involved in Team Spirit and the rugged terrain of Korea exact a high price in vehicle maintenance. The battalion must receive assistance from the brigade maintenance section, along with a tailored automotive prescribed load list package. With the BSA 30 to 40 kilometers from the FLOT, the goal of fixing equipment as far forward as possible takes on a new meaning. The battalion combat trains must have on hand glow plugs, spare tires, and control boxes.

This kind of augmentation comes, of course, with its own CSS price tag—the light infantry battalion's logistical structure picks up the additional support requirements.

The major lessons for a light infantry battalion in a mid-intensity conflict that were revealed by our battalion's Team Spirit experience are the following:

- Anticipate the need for and the employment of combat, combat support, and combat service support augmentation forces.
- Plan for time and distance factors imposed by a scenario in which the flow of battle moves more than 20 kilometers a day. The tempo of mid-intensity operations will not allow a unit merely to react to events without severe penalties.
- Plan to support augmentation forces with every class of supply.
- Have a back-up plan and redundant support systems. If the CDS doesn't fly, how will that element be resupplied?
- Have a good tactical SOP that is broadly understood. Units *will* lose communication, trucks *will* get lost, delays *will* occur. The augmenting units must understand the light infantry battalion's SOPs.

Army doctrine calls its light infantry division a strategically responsive and flexible division that is organized, equipped, and trained to respond to a broad spectrum of contingencies and to reinforce units that are deployed forward. The challenge in a mid-intensity environment is to be aware of the division's limitations and vulnerabilities and to see that it is appropriately augmented.

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Organic Air Defense
For A Light Infantry Company

CAPTAIN MICHAEL I. PARIETTI

After serving for two years in a light infantry company, I am convinced that organic air defense is needed at the platoon and company level. The probable areas of deployment for a light infantry company and the nature of its missions make it extremely vulnerable to aircraft on the AirLand Battlefield.

In light infantry battalions today, a great deal of emphasis is put on antiarmor capability. For example, the antitank section in the company headquarters is made up of six Dragon teams, and these teams often conduct extensive training on the use of the Dragon antiarmor missile. Unfortunately, there are no similar teams to help with air defense.

Yet, in most of the terrain for which the light infantry unit was created, a platoon can run from armor but can find no place to hide if a helicopter gunship shows up. A platoon in this situation could be rendered combat ineffective in a matter of minutes. (A good example of this is the terrible mauling the Viet Cong and the North Vietnamese Army took at the hands of our coordinated airpower because they had no air defense at the small unit level out in the paddies and the jungle.)

Too, the nature of a light infantry platoon's mission sometimes requires it to operate independently or behind enemy lines. As a result, that platoon leader will not always be able to rely upon higher headquarters to provide him with air

defense when he needs it. In addition, a light infantry platoon must often operate at night, and this makes it vulnerable to enemy aircraft equipped with night vision equipment.

The solution to this problem is to make six Stinger systems available to the company's antitank section and to cross-train the Dragon gunners to fire both weapons. Then, depending on the commander's analysis of METT-T (mission, enemy, terrain, troops available, and time), the platoons could take either the Stingers or the Dragons on a mission, or they could carry a mix of them.

The two weapons are similar in weight. The Stinger weighs 35 pounds and the Dragon, 32 pounds. The Stinger is significantly longer than the Dragon, and may be more awkward to carry in certain types of terrain and vegetation, but it is manportable.

There are several possible arguments against this proposal. The first is that the Stinger teams now found at the division level can be tasked out as a company needs them. The problem is that there are not enough Stinger teams to go around. A light infantry division has one air defense artillery battalion consisting of two batteries, each with one Stinger platoon. The platoon is divided into four sections with five Stinger crews each. Each Stinger crew is made up of a noncommissioned officer and an enlisted man; they are equipped with a HMMWV (high mobility multipurpose wheeled vehicle) and a basic load of six missiles. In the portable mode, one many can carry only one missile.

This adds up to 20 Stinger crews for each battery or 40 for the division. These Stingers are usually put in direct support of headquarters or trains locations at the division, brigade, and battalion levels, which leaves few available for use at the company or platoon level. And even if there were enough systems, it would take too long to get them from division to support a platoon's operation.

According to the draft version of TC 44-3 (June 1988), 52 non-dedicated Stinger gunners will be made available to the light infantry divisions. The only problem with this is that all of these Stingers have been allocated to combat support or headquarters elements. (Twenty of them will go to field artillery units, 18 to military police units, one to each mortar platoon, one to each brigade headquarters, and two to division headquarters.) None have been allocated to the frontline infantry units.

Another argument against the idea of issuing Stingers to a light infantry company is that, in low-to-mid-intensity conflicts, U.S. forces will always have air superiority over the enemy; therefore the companies and platoons will not need any air defense. But this assumption is not completely valid. Some of our potential third-world enemies do have aircraft, including attack helicopters—probably not as many as we have, but enough to do some damage. An enemy observer with a radio can bring aircraft in on a position suddenly, and by the time a unit requests friendly air cover, it may be too late.

In addition, during a light infantry platoon's missions behind enemy lines, friendly air cover would give away its presence.

Still another argument is that it would

be too costly or too difficult to cross-train the company Dragon gunners. Actually, though, the only expensive part would be supplying the missiles themselves. A Stinger missile and launcher costs about $50,000. As for training, the division Stinger teams could train the gunners, under the direction of the air defense artillery battalion.

The weapon is fairly easy to operate, and tests have shown that it has a kill probability as high as 77 percent. Both the *mujahideen* in Afghanistan and the contra rebels in Nicaragua have used the Stinger successfully. If these people can use the Stinger effectively, I am confident that the U.S. infantryman can also be trained to use it effectively.

The company's Stinger training would certainly have to include training on identifying friendly and enemy aircraft. And since this skill is perishable, the training would need to be done on a recurring basis.

The implications of using Stinger gunners who did not have proper aircraft identification skills are serious, and doing so could result in the downing of friendly aircraft. One way to reduce this risk would be to place engagement restrictions on the infantry Stinger gunners. For example, the gunners might be allowed to fire *only* at threatening Warsaw Pact helicopters, which are easier to identify than hostile fixed wing aircraft, and which also may be the greatest threat to light infantry. (It is not as easy to distinguish between friendly and hostile fixed wing aircraft.) Although there is an IFF interrogator device that can be attached to the Stinger and used to determine whether an aircraft is friendly, the primary means of identification is visual.

During movement, a light infantry company would not have enough vehicle support to carry the extra missiles or the launchers when the platoons were using them. Therefore, in combat, the missiles would need to be stored at the battalion combat trains under the control of the battalion S-4, the same way the M202 rocket launcher is now stored. This would be feasible, because the Stingers do not need any special maintenance. The missiles would then be brought forward at a company's request.

In peacetime, each company would need one or two MILES Stinger launchers to use for refresher training. These could be placed under the control of the company armorer and stored in the company arms room.

The Stinger missile system is an effective weapon, and it should be used to its fullest potential. The U.S. Army should make air defense organic to the light infantry company by cross-training its Dragon gunners as Stinger gunners and making the missiles available to them.

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J-Edition Field Trains

CAPTAIN ANTHONY R. GARRETT
LIEUTENANT MICHAEL P. RYAN

The implementation of the J-Edition modified table of organization and equipment (MTOE) has significantly increased the personnel and equipment in the headquarters and headquarters company (HHC) of a mechanized infantry battalion. As a result, operating the company's field trains presents formidable leadership and tactical challenges for an HHC commander.

Unfortunately, when we were assigned to an HHC in 1986, we found there was little "how to" literature on field trains operations. FM 71-2, The Tank and Mechanized Infantry Battalion Task Force (then in draft form but published in September 1988) provided the most useful information on the subject. Further, the recent staffing of ARTEP 7-94-MTP, Infantry Battalion HHC/CS/CSS Platoons, suggests that this shortfall in CSS operations has now been corrected. The ARTEP provides tasks, conditions, and standards for establishing and operating the field trains. This document (to be published in November 1989) should fill the void in this critical area.

In the absence of this kind of help, however, we developed some techniques that helped us meet the challenge. And these techniques can still serve as a "how to" methodology to help HHC leaders meet the standards specified in the new ARTEP.

Although the techniques presented here were developed for use in Korea, the concepts and principles behind them have universal application. If you are a new HHC commander, you should find them at least a good starting point. Even if you are an experienced HHC commander,

you may find the information useful enough to incorporate into your existing SOP.

After you have assumed command and when you begin researching methods for deploying and operating the field trains, consult the S-4, the battalion executive officer, possibly the S-3, and the support platoon leader. Each of these officers will be able to advise you on the basis of his past experience and his interaction with the field trains.

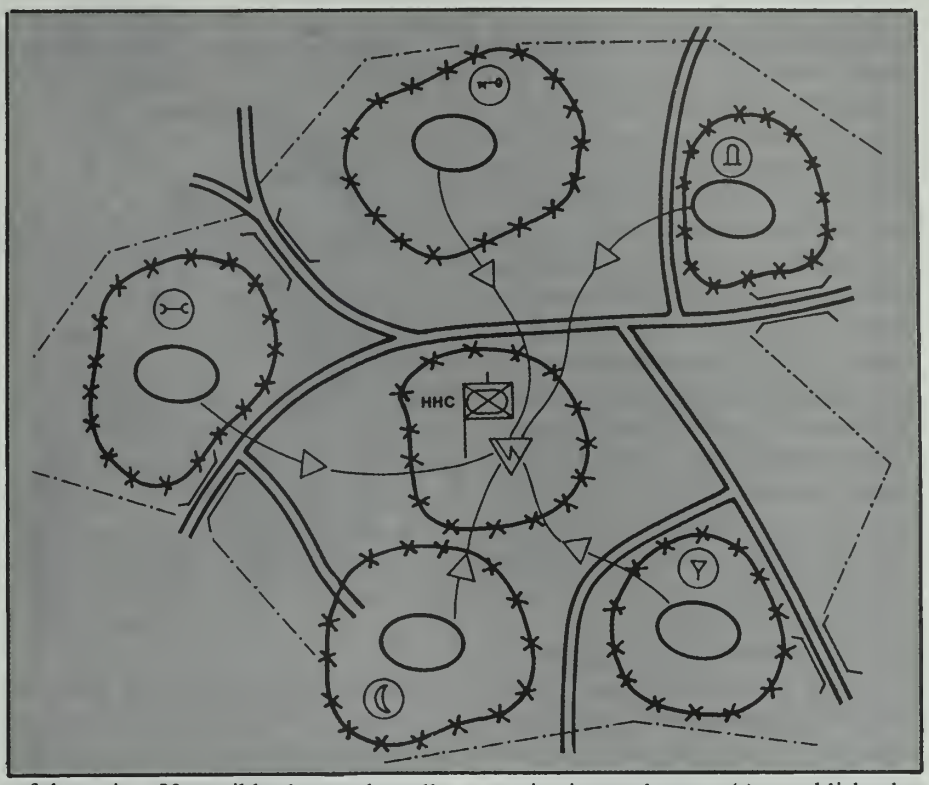
Most important, if the company XO and the first sergeant have experience with the field trains, they can be an invaluable source of information during the planning, organizing, and executing phases.

Once you have collected and digested all the available information, you are ready to begin the planning phase of your operation. While the following items are not all inclusive, they do warrant special attention:

Route Selection. Consider bridge classifications, choke points, road classifications (X,Y,Z), weather, access routes (entry/exit) to and from the site, and temporary maintenance collection points. Also identify alternate routes to your site and, most important, analyze the mission using METT-T and the commander's intent.

Site Configuration. When selecting a site, consider size, deception, detection, and dispersion. The objective of deception is to convince the opposing force that the trains are somewhere other than where they actually are. Since the opposing force detects our units primarily through electronic signatures (FM radio transmissions), using land lines for communications can reduce the chances of detection.

The cellular concept, shown in the accompanying diagram, emphasizes configuring the trains into small functional teams or cells on the basis of their specialties. A small cell or cluster will increase your ability to displace and will provide some measure of deception as well. Ideally, a cell should contain no more than 20 people and five vehicles. And always remember the basic camouflage principles.



Dispersion is essential to the survival of the trains. If possible, locate the cells 200 to 500 meters apart using land line communications to maintain control.

Convoy Alignment. Although this may appear insignificant to the inexperienced, it is important because it will dictate the length of time needed to establish the trains. First, consider organizing the vehicles into serials on the basis of the size of the convoy. The primary consideration should be to arrange the serials to facilitate movement into the site. The following is a suggested alignment based on the accompanying site diagram:

- Convoy commander with XO. The XO, unless he leads the quartering party, helps direct the various serial elements into the site.
- Mess section (MKTs and water trailers). The selected location enables the mess section to set up quickly and prepare for the first LOGPAC operation.
- Communications platoon (-). The sections need to establish immediate communications with the battalion combat trains on the administration/logistics (A/L) net. This location will allow them to set up quickly. Co-locate them with the HHC command post (CP).
- HHC supply section. Since this section is responsible for helping the communications platoon (-) establish the HHC CP, it should be co-located with the communications platoon.
- Line company supply sections (Companies A-E). Using the cellular technique, locate the five sections in a cluster with land line communications to the HHC CP. These elements need to arrive in the site early to prepare for the first LOGPAC operation.
- Support platoon (ammunition/cargo). Since this section contains the largest collection of people and vehicles, consider organizing it into several cells. During movement, locate the ammunition vehicles in the front of the section so that they can arrive first and get positioned before the majority of the trains arrive. For obvious reasons, locate the Class V ammunition supply point near the alternate entry/exit points.
- Maintenance sections (battalion motor officer and company contact teams). Locate these elements using the cellular concept. Since they will not be conducting a LOGPAC operation, they should move into the site later. (Remember that maintenance is forward in the company trains.) Locate the maintenance cell on firm ground near a road that can support tracked vehicles. Finally, if the task force has tanks, there should be

enough space to support an armor maintenance section.

• Support platoon (POL tankers). This section should be the last to arrive at the trains site. This technique separates Classes III and V during movement and allows for refueling on the move. Locate the Class III refueling point near a road but away from the main flow of traffic.

• Maintenance recovery vehicle and aid vehicle. Their location in the convoy should be selected based on the anticipated need to recover downed vehicles and injured personnel during movement. The first sergeant should accompany this section and advise the commander by FM radio of any problems.

Once your planning is complete, you can then attend to a few other tasks that will make the occupation of the site smoother and faster.

Reconnaissance. When participating in brigade level operations, the brigade S-4 will designate the brigade support area and your general location in it. After conducting a map reconnaissance of your area, follow up with an on-site leader's reconnaissance. Ideally, you should take with you a representative from each of your sections, but take at least the XO, the first sergeant, the support platoon leader or sergeant, and representatives from the communications and BMO sections.

Situation Report. As with any operation, you must provide the key leaders with the information they need to conduct the operation. For the deployment or displacement of the trains, a fragmentary order (FRAGO) will usually meet this requirement. Provide at least the five "W's" (who, what, when, where, and why), routes, movement schedules, signals, site location, and the occupation plan. Following your FRAGO, use the HHC XO and first sergeant to spot check.

When occupying the field trains site, the first people to arrive are members of the quartering party. Under the direction of the XO, they occupy hasty fighting positions, select a central entrance/dismount point for vehicles, and mark each cell location.

During daylight, you may mark the cell locations several ways (color coded engineer tape, tent stakes, and the like). During periods of limited visibility,

chemlites are an economical and effective way to mark cell locations. The method of marking is not critical, so long as everyone understands the system. Standardizing the marking system in an SOP will help prevent later confusion.

As each vehicle arrives at the dismount point, at least one soldier should dismount with his weapon and occupy a hasty fighting position that the XO has selected. A ground guide from the quartering party will lead the vehicle to its cell location.

As with line companies, the preparation of defensive positions for the HHC is an ongoing process. A priority of work list will enable the company to do the essential tasks in a minimum of time. The following list provides a workable technique:

Security. Establish observation posts (OPs) to provide early warning. Do not establish a pattern for patrols, and relocate the LP/OPs daily. At night, conduct active patrolling. Conduct "stand-to" according to the SOP. Use night vision devices.

Crew-served Weapons. The field trains have a significant number of crew-served weapons, and you should take advantage of this situation by positioning them to provide maximum firepower. The priority should always be overwatching entry or exit points and obstacles.

Fighting Positions. Little needs to be said on this topic, but the leaders may find they need to supervise non-combat arms soldiers more closely. Use camouflage extensively, and require range cards and sector sketches for each cell.

Obstacles. Emplace antipersonnel mines and concertina wire, and construct barricades at entry and exit points to control access into the site. Man the barricades at all times and establish communications between them and the HHC CP.

Communications. The cellular concept requires that each cell have reliable communications within it and with the HHC CP. Land lines are the most practical and dependable, and they also provide excellent operational security (OPSEC). Because of the electronic signature, avoid using FM radio.

Tentage. This task should not take priority over other mission essential tasks. If manpower is managed efficiently the soldiers will be able to erect tents for maintenance, cooking, and shelter while they are doing other tasks.

The efficient and uninterrupted operation of the field trains is essential to the support of a task force. Both Soviet doctrine and the nature of the non-linear battlefield make the field trains susceptible to interdiction. For this reason, HHC leaders must develop SOPs, conduct training, and establish habitual relationships with line company personnel to improve their chances of surviving on the battlefield.

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Squad Leading

SERGEANT FIRST CLASS PATRICK J. COYLE

The whole point of being a leader in the Army is getting soldiers to do what is required when it is required. And no place in the Army is this more difficult than at squad level. At all the other levels of command, a leader's immediate subordinates are professional soldiers—people who have demonstrated that they have the self-discipline and knowledge to do what must be done.

How does a squad leader get young soldiers to do things they don't want to do, or things that may be dangerous for them to do? One way is to mold the members of the squad into a group that has so much of an accepted identity that the members care almost as much about the squad's existence as they do about that of their own families. In other words, the squad must become a family in its own right.

The place to start this process is in team training. The squad leader must start each period of training with a clear statement of the training objective and the part each member of the squad will contribute to achieving that objective. This allows each soldier to see that his portion of the task is critically important to the functioning of the entire squad.

The squad leader should reinforce this idea in after action reviews and critiques, emphasizing the fact that if the squad is to accomplish its mission, each soldier must perform at least to minimum standards.

As its training progresses, the squad should begin to set higher standards of performance for itself and its members. The squad leader must temper these standards, though, with his own professional judgment of their attainability.

In individual training, the squad leader must again make sure all of the squad members see that each is responsible for the individual performances of the others. The squad leader can use peer training assignments to achieve this; he takes a soldier with demonstrated proficiency in a task and makes him responsible for helping another soldier achieve the same level of proficiency.

As the results of skill qualification tests come in, the squad leader should have the soldiers sit down as a group and go over the tasks any of them had problems with. Then as a group, they should make a commitment to the remedial training of every soldier whose score on the test was less than perfect. People who score 100 should be praised for their performance and given their special rewards, but at the same time they should be counselled on their duty to help the rest of the squad.

In normal housekeeping and maintenance tasks, the squad must also learn that the performance of an individual reflects on the performance of the entire squad. Each member must learn that his individual performance is an integral part of the team's performance.

When the squad leader assigns these tasks, he must explain them the same way he explains a tactical mission. When the soldiers perform the tasks for the first time, the squad leader must train the squad the same way he would train it for an ARTEP mission. After the soldiers develop proficiency, standing operating procedures can be established to make their subsequent performance consistent.

Although a squad leader cannot control his soldiers' off-duty time, he must try to make sure the squad identity is also carried over to those free-time periods, at least to some extent. Planning social functions that all squad members and their families can attend will make it easier for the soldiers to make their own commitment to the squad, and if their spouses can be made to feel they, too, are part of the team, so much the better.

Picnics are a good way to do this. Logistically and financially, they are fairly easy to arrange and to have everyone take part in. On these occasions, to involve family members more in what the squad is doing, the soldiers can demonstrate some of the things they do during prolonged absences from their families. This will give the family members a better understanding and help them be more supportive of the soldiers.

Using these techniques, the squad leader can eventually turn the squad members into an integral unit—a family in which everyone does his job, secure in the knowledge that every other member of the team is doing the same. Then, unfortunately, some of the squad members will be transferred out and new ones, outsiders, will be transferred in. And the squad leader must begin again.

Now, though, the squad leader's job in training these new people is simpler, because he is usually working with only one or two new people at a time. If he is smart, he will have a squad reception and integration program that will help bring the new squad members into the family.

Again, the squad leader must make sure each member of the team understands his part in the program before it begins. He explains that the new people coming in are going to be made full members of the team and assigns tasks to everyone to make sure this mission is accomplished.

The squad leader appoints another soldier, of the same grade and marital status as the new soldier, to serve as the

new man's guide and sponsor throughout the integration process. The squad leader must choose this individual carefully, and everyone must see the choice as a mark of recognition, because the guide probably plays the most important role in making the new soldier a complete part of the squad.

The squad leader and the sponsor go together to pick the new soldier up and bring him to the unit area. After the necessary and unavoidable administrative tasks at company level are done, the squad leader makes sure the soldier has a place to stay. If he is accompanied by his family, their shelter also must be assured, at least temporarily, before anything else is done. Then the squad leader must find out about any problems that may have come up since the soldier left his previous unit. Then he needs to deal with these problems before any other processing begins.

Dealing with a problem doesn't necessarily mean solving it; some of the problems that arise when a soldier changes assignments may take weeks or months to solve completely. What the squad leader is concerned about at this point is identifying the problems and establishing a plan for solving them. This also lets the new soldier know that his welfare is a primary concern for the squad leader.

Next, the squad leader begins his initial counseling session with the soldier. As with all counseling sessions, this one needs to be done at a time and a place where there will be no interruptions and the new soldier can be put at ease and made to feel that he will be treated fairly and justly.

During the session, the squad leader first finds out some things about the soldier. Two tools are useful in doing this—a personal questionnaire and the soldier's individual training record. The questionnaire needs to be short and to the point—name, rank, social security number, and next of kin. While the soldier is completing this form, the squad leader can be looking over his training record, making notes on questions he needs to ask to clarify any entries he does not understand.

At this point, it is useful for the squad leader to ask the new soldier to tell a little about his background, what he expects out of the Army, and what he expects out of life. The squad leader's primary purposes in this getting-to-know-you exercise are to start thinking of the soldier as a person and to let the soldier know the squad leader is interested in him as a soldier.

Once these two objectives have been accomplished, the soldier needs to be informed briefly about the squad and the unit to which it belongs. The things that must be included here are any rules, regulations, or expectations that are unique to that unit so the soldier can stay out of trouble. (He can learn most other things about the squad and the unit later by seeing them in action.)

Then the squad leader calls the sponsor in and explains to both soldiers the relationship between the two of them. The sponsor will be responsible for the new soldier for a set period of time, usually two or three weeks. During that time, the two will be inseparable during duty hours and will also be encouraged to spend as much time as possible together after duty hours. If the sponsor is assigned to a detail, both soldiers go. If the new man has an appointment at the personnel actions center, both go. This way, the new soldier will not be put in the position of doing something wrong because he did not know the local procedures.

At the beginning of each day during the integration period, the squad leader must talk to these two soldiers, finding out what has been done and what will be done. This way he can keep abreast of the current situation and answer any questions that may arise. (This doesn't mean, of course, that they are ignored for the rest of the day.)

This integration period also includes performing the day-to-day duties in the squad, platoon, and company. The sponsor guides the soldier so that he will not feel left out in the cold but learns how things are done in this unit. He must gradually be made a part of everything the squad does.

Finally, after the integration period is over, the squad should have some sort of simple ceremony making the newcomer an official member of the squad.

As the new soldier then becomes more involved in the normal training of the squad, the other soldiers must remember that he hasn't had the benefit of all the training the squad did earlier. As each new training situation comes along, the squad leader must make sure the new soldier understands the objectives and the way his performance will affect the achievement of those objectives.

In other words, as new people enter the squad, the squad leader must continue the steps he used in integrating the squad in the first place.

The process of taking a number of unrelated soldiers and turning them into an integrated squad that will live as a family and function as a team requires the squad leader to put in a lot of hard work and long hours. But watching that team perform—accepting any challenge, and challenging any task—will make all the hard work worthwhile.

Sergeant First Class Patrick J. Coyle is a member of the Individual Ready Reserve and a writer. Previously, he served on active duty at Fort Benning as a drill sergeant in the Infantry Training Center and an instructor at the NCO Academy. Several of his articles have appeared in various military publications.

ENLISTED CAREER NOTES

TRACKED ADVANCED NCO COURSE

A new Infantry Advanced Noncommissioned Officer Course (ANCOC) program of instruction (POI) is being developed that will give CMF 11 infantry platoon sergeants instruction that relates to their specific MOSs. The current POI offers the same instruction to all soldiers in CMF 11.

The new program will consist of four tracks (11B, 11C, 11H, and 11M) that address the specific Skill Level 4 requirements for each MOS. It is expected to be implemented in Fiscal Year 1990.

BRADLEY MASTER GUNNERS

Qualified Bradley fighting vehicle NCOs who want to train as master gunners may do so on the way to their next duty station.

The 14-week master gunner course includes gunnery training and detailed instruction on turret weapon maintenance, range operations, and preparing quarterly gunnery training programs. The course is conducted at Fort Benning.

To qualify, a soldier must meet the following requirements:

- Be on active duty.
- Be qualified in MOS 11M (fighting vehicle infantryman).
- Have a GT score of 100 or higher.
- Have at least 11 months remaining on his current enlistment.
- Be in the rank of sergeant (promotable), staff sergeant, or sergeant first class.
- Be recommended by his battalion commander.

A qualified NCO can apply by submitting a DA Form 4187 (Personnel Action) and updated DA Forms 2A and 2-1 (Personnel Qualification Record, Parts I and II). His local personnel administration center will help with the application packet.

Additional information is available from the Infantry Branch of PERSCOM, AUTOVON 221-8055/8056 or commercial (202) 325-8055/8056.

DRILL SERGEANTS NEEDED

The Army is looking for qualified sergeants first class, particularly infantrymen, to train and serve as drill sergeants.

Soldiers who are interested in volunteering should contact their local personnel staff NCO or personnel service company for details.

NCOs who are stationed at training posts that have drill sergeants may apply any time. Other soldiers stationed in the continental United States must complete at least 36 months at their current duty stations before applying.

NCOs stationed overseas should apply at least 10 to 12 months before their scheduled return.

BASIC RIFLE MARKSMANSHIP IN NCOES COURSES

As part of its Train the Trainer (T3) emphasis, the Infantry School has been looking at M16 rifle marksmanship (BRM) within its resident NCO Education System courses.

To make sure NCO leaders will be able to train their subordinates on basic rifle marksmanship, the School has integrated T3 modules into its Basic NCO Course (BNCOC) and Advanced NCO Course (ANCOC).

CMF 11 BNCOC students at Fort Benning now receive 16 hours of T3 instruction on basic rifle marksmanship sustainment. This module contains blocks of instruction on U.S. Army training strategy and mechanical training (T3); coaching and remedial training techniques, marksmanship fundamentals; grouping, zero, feedback; nuclear, biological, chemical; and night firing techniques and qualification.

This 16-hour module has been incorporated into the new revised CMF 11 BNCOC program of instruction and will be phased into all Infantry BNCOCs by 1 October 1989.

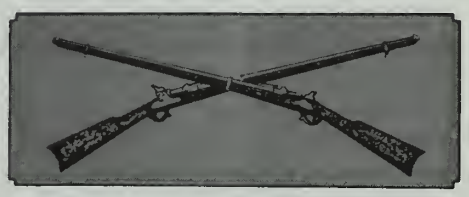
The 24-hour ANCOC module, implemented in January 1989, covers all the subjects in the BNCOC module in greater detail and concludes with qualification on a record range.

IRR/IMA REENLISTMENT

An agreement between the Army Reserve Personnel Center (ARPERCEN) and the U.S. Army Recruiting Command (USAREC) has made reenlisting easier for Reserve soldiers who are not in units.

An enlisted IRR or IMA soldier who wants to reenlist first contacts his ARPERCEN personnel management NCO. ARPERCEN begins the action and forwards reenlistment documents and instructions to the soldier.

Once he has his reenlistment documents (DD Forms 4-1 and 4-2, DA Form 4688, and the ARPERCEN instructions), his local recruiter will help him complete the paperwork and will schedule a commissioned officer to administer the oath.



OFFICERS CAREER NOTES

TIME ON STATION

Most branch qualified infantry captains are surprised to learn that they are being reassigned away from troops long before they reach the CONUS goal of 48 months time on station (TOS).

The average infantry captain in CONUS can expect to spend 14 to 16 months in command (the goal is 18 months) before becoming branch qualified and then an average of 32 months TOS before being assigned away from troops.

The reason for the 32-month TOS average is the continuing need for good, branch-qualified infantry captains to fill critical duty positions that sustain Army readiness, support the training base, and man essential functional area assignments. In addition, serving away from troops is an essential part of an officer's professional development.

When the captains who have the most troop experience and institutional knowledge leave early, the losing command feels the effects. The resulting personnel management and manning problems affect the entire organization.

The fact that these departures are occuring at the 32-month TOS point is not expected to change in the foreseeable future. This raises the question of how we can manage infantry captains to lessen the effect on the losing commands and meet the Army's need for captains to serve away from troops.

There are several techniques commanders can use to help assignment officers manage their personnel:

- They can let Infantry Branch know early which officers will progress into second commands. (This applies primarily to mechanized infantry units—a move from a line company into a headquarters company is one of the few options.)
- Request stabilization for training center rotations as soon as training dates are known.
- Identify officers who are scheduled for overseas unit deployments such as those to the specialized training centers.
- Request stabilization for CONUS-based COHORT company commanders.

Identifying the officers in these categories early will help the assignment officers at Infantry Branch make decisions concerning the timing of their away-from-troops assignments.

The officers in functional areas (FAs) 39, 41, 50, and 54 have the most flexibility. Those with more technical functional areas such as FA 48 (FAO), 49 (ORSA), 51 (R&D), and 97 (Procurement) must proceed with schooling and functional area assignments to qualify in their functional areas before it is time for them to attend a command and staff college.

A captain can assist in the assignment process by indicating his preferences for his away-from-troops duty and location when he is in his sixth month of command. All that is necessary is a short note to his assignment officer. But Infantry Branch strongly urges that he seek guidance from his commander before sending in his preferences.

The 32-month TOS average for branch-qualified captains is a tough problem. But if commanders and officers take these steps, assignment officers will be better able to meet the needs of the Army, place the right officer in the right job, and accommodate individual preferences.

Further information is available from CPT Jim McNulty, CPT Don Phillips, or CPT Steve Barclay at Infantry Branch.

RECRUITING COMPANY COMMANDS ARE PRIORITY

Officers who have strong files are needed to fill 30-month company command positions throughout the country in the U.S. Army Recruiting Command. The Chief of Staff of the Army has declared these assignments to be top priority. Officers are also needed to fill staff assignments in USAREC.

All of these jobs are challenging and give officers an opportunity to help shape the Army of the future by ensuring that good soldiers are recruited.

To have the best possible chance of choosing the location they prefer, officers who want an assignment in USAREC should call CPT Don Phillips at AUTOVON 221-5520 at least six months before completing their commands.

OFFICIAL PHOTOGRAPHS

A recent photograph is an important element in a selection board packet and one of the three items that are sent to promotion boards. (The other two are the officer record brief and the microfiche record.)

Despite the photo's significance, though, there is a continuing problem with the photos in officers' files.

For example, in June 1989, in preparing for the six September majors boards, Infantry Branch at PERSCOM found that 42 percent of the files of the infantry officers in the zone of consideration contained either poor quality photos or none at all.

The deficiencies were the following:

- Awards and decorations (badges, tabs, infantry cord, insignia)—14 percent.
- Uniform (fit, cut, size, shoes)—40 percent.
- Personal appearance (hair, moustache, posture)—9 percent.
- Outdated photo (more than three years old)—31 percent.
- Quality of photo (dark, torn, contrast)—5 percent.

Before having a photograph taken, an officer should check his uniform, or better yet have a fellow officer or noncommissioned officer check it for him. In addition, he should check his photo

before the photo lab sends it to PERSCOM. If at all possible, he should obtain two additional copies and send them directly to Infantry Branch.

Obtaining an official DA photo can be a hassle. But selection boards use them in formulating opinions and making the decisions that affect an officer's advancement. A photo that presents the best possible professional image is well worth any officer's time.

INFANTRY PRECOMMAND COURSE

The Infantry Precommand Course (IPCC), conducted at Fort Benning, Georgia, is designed to help senior Army leaders prepare to command U.S. Army Infantry units.

The IPCC focuses on how to train, maintain, and fight. It gives maneuver battalion and brigade command designees refresher training in offensive and defensive operations, fire support operations, NBC, logistics, training management, command and control, maintenance, and small arms weapon live fire.

The three-week course is open to Active Army and Reserve Component Infantry and Special Forces officers who are now in command, or have been designated to assume command, of Infantry battalions or brigades. An additional one-week Bradley Fighting Vehicle Commander's Course is conducted for the officers who are designated to command Bradley units.

The first week includes maintenance competency, officer and noncommissioned officer updates, and a staff ride to the Chickamauga Battlefield site. The second week introduces the battlefield operating systems and provides the foundation for five days of tactics, including a live fire tactical exercise without troops. The third week deals with general staff subjects.

Interspersed throughout the course are five sessions with the Commandant and the Assistant Commandant of the Infantry School.

The IPCC's dynamic program of instruction continues to provide the Army's battalion and brigade command designees with the finest preparation possible.

CORRESPONDENCE COURSES

The Army Correspondence Course (ACCP) Branch at the Infantry School has developed several new courses:

- Courses that support the correspondence phases of the Infantry Officer Advanced Course, Reserve Component (IOAC-RC) and the Infantry Officer Basic Course, Reserve Component (IOBC-RC). These courses are reflected in the new DA Pamphlet 351-20, July 1989.
- A course of instruction to prepare personnel to attend the Long Range Surveillance Leader Course. This course is now available.

In addition, the following courses are now being developed:

- M23, Mortar Ballistic Computer Course.
- BFV Commander's Course (Offense and Defense).
- Joint Interoperability of Tactical Command and Control Systems Course.
- The M16A2 Fundamentals of Marksmanship Course.

Although these four courses do not appear in the new ACCP pamphlet, they will be available 1 October 1989.

Further information on new or existing courses is available from ACCP Branch, USAIS, AUTOVON 835-7151, or commercial (404) 545-7151.

SHORT-TERM EXTENSIONS OTRA FIRST LIEUTENANTS

A short-term extension program has been approved for OTRA (other-than-regular-Army) first lieutenants who would have been considered for promotion and CVI selection by the March 1990 board but whose term of service expires before that date.

The extension will enable officers to remain on active duty voluntarily until 31 July 1990, or 120 days past the convening date of the board. Approval authority for these extensions has been delegated to the first colonel in an officer's chain of command.

Field commanders have been instructed to grant extensions only to those officers whose records of performance merit continued retention on active duty and who want to remain on active duty past their initial obligations.

Further information is available from personnel service centers and military personnel officers.

BOOK REVIEWS

The Army-Air Force Center for Low Intensity Conflict (A-AF CLIC) is located at Langley Air Force Base, Virginia 23665-5556. Periodically, it produces what it calls CLIC Papers, which are informal publications dedicated to the advancement of the art and science involved in the application of military power in the low intensity environment.

One of the most recent CLIC papers is titled PEACEKEEPING: TACTICS, TECHNIQUES, AND PROCEDURES. It was prepared by Lieutenant Colonel Monty Ayers. (A portion of that paper was printed in INFANTRY, January-February 1989, pages 19-23.) Another recent paper is titled LOW INTENSITY CONFLICT OVERVIEW, DEFINITIONS, AND POLICY CONCERNS. It is an edited version of a briefing presented at a symposium by Colonel Lee Dixon, a Reserve Component advisor at the Center. It provides information regarding threats to U.S. interests and the development of effective policies to meet these threats.

A complete listing of the CLIC Papers is available at the Defense Technical Information Center, Defense Logistics Agency, Cameron Station, Alexandria, VA 22304-6145 or from the CLIC itself.

Interested authors of articles concerning the history, doctrine, strategy, or operations of low intensity conflict are welcome to contact the CLIC.

The Association of the United States Army's Institute of Land Warfare has sent us two of its recently published titles: THE PARAMETERS OF MILITARY ETHICS. Edited by Lloyd J. Matthews and Dale E. Brown (Pergamon-Brassey's, 1989. 167 Pages. $14.95, Softbound), and THE CHALLENGE OF MILITARY LEADERSHIP. Edited by Lloyd J. Matthews and Dale E. Brown (Pergamon-Brassey's, 1989. 167 Pages. $14.95, Softbound). Each of these books contains a number of essays that were originally published in PARAMETERS, the Army War College's professional bulletin. A few have been updated for these particular publications. As a reader can tell from the titles, the articles have been grouped under the general headings of military ethics and military leadership. Among the authors are such well-known figures as Omar Bradley (''On Leadership''), Maxwell Taylor (''A Do-It-Yourself Professional Code for the Military''), Donn A. Starry (''Running Things''), and James B. Stockdale (''In War, in Prison, in Antiquity'').

These books represent an excellent beginning to what promises to be an exciting series of both new texts and reprints of titles of long-standing value that are no longer in print.

The Army's Center of Military History has begun reprinting the publications in the old DA Pamphlet 20-series known as the GERMAN REPORT SERIES (See also ''World War II History: German Military Studies,'' by Captain Harold E. Raugh, Jr., INFANTRY, March-April 1988, pages 17-19). A few numbers in that series were reprinted in the early 1980s. The new publications, facsimile editions, may be purchased from the U.S. Government Printing Office. Thus far, we have received seven of the reprints:

• RUSSIAN COMBAT METHODS IN WORLD WAR II (CMH Pub 104-12. USGPO S/N 008-029-00182-9. 1988. 116 Pages. $4.50, Softbound).

• THE GERMAN CAMPAIGN IN RUSSIA: PLANNING AND OPERATIONS, 1940-1942 (CMH Pub 104-21. USGPO S/N 008-029-00186-1. 1988. 1987 Pages. $9.00, Softbound).

• GERMAN DEFENSE TACTICS AGAINST RUSSIAN BREAKTHROUGHS (CMH Pub 104-14. USGPO S/N 008-029-00183-7. 1988. 80 Pages. $7.00, Softbound).

• GERMAN ARMORED TRAFFIC CONTROL DURING THE RUSSIAN CAMPAIGN (CMH Pub 104-17. USGPO S/N 008-029-00175-6. 1989. 43 Pages. $2.00, Softbound).

• AIRBORNE OPERATIONS: A GERMAN APPRAISAL (CMH Pub 104-13. USGPO S/N 008-029-00174-8. 1989. 56 Pages. $2.00, Softbound).

• OPERATIONS OF ENCIRCLED FORCES (CMH Pub 104-15. USGPO S/N 008-029-00184-5. 1988. 74 Pages. $3.25, Softbound).

• REAR AREA SECURITY IN RUSSIA (CMH Pub 104-16. USGPO S/N 008-029-00185-3. 1988. 39 Pages. $2.00, Softbound).

Here are several other recently published books we also want you to know about:

• SO FAR FROM GOD: THE U.S. WAR WITH MEXICO, 1846-1848. By John S. D. Eisenhower (Random House, 1989. 436 Pages. $24.95). This is a solid, straightforward account of perhaps our least known war. Drawing largely from secondary sources, the author concentrates on the political and military aspects of the war as seen by both sides, but focuses most of his attention on the campaigns and battles fought by Zachary Taylor and Winfield Scott. Along the way, he tells of the happenings in California; of ''Doniphan's March'' — the 3,500-mile trek by Colonel Alexander Doniphan and his 1st Missouri Mounted Infantry; and of the final negotiations that led to the end of the war and resulted in the Treaty of Guadalupe Hidalgo.

• SUNRISE AT ABADAN: THE BRITISH AND SOVIET INVASION OF IRAN, 1941. By Richard A. Stewart (Praeger, 1988. 320 Pages. $42.95). In view of the recent events in the Middle East, this book, written by a serving U.S. Marine Corps officer, makes a most timely appearance. Although the particular military aspects of this little-remembered World War II campaign are brought to life, many of the names of the people and places will be much more familiar today than they were to Ameri-

cans in 1941. The author covers both sides as well as his sources permit him to, and in his epilogue he writes of the increasing tensions between the Soviets and the British (and later the Americans, who appeared on the scene in large numbers in 1942) as the war progressed, and of the eventual settlement of most of the major problems in early 1946. But that settlement came only after there had been a serious showdown between the Soviet Union and the United States. The author concludes that the 1941 military invasion of Iran was the right thing to do at the time.

• VIETNAM MILITARY LORE, 1959-1973: ANOTHER WAY TO REMEMBER. Volume I. By Ray A. Bows. Edited by Stephen P. Bows (Bows and Sons Publishers, 2055 Washington Street, Hanover, MA 02339. 1988. 720 Pages. $29.95, Softbound). Any American military man who served in Vietnam and anyone interested in the Vietnam War itself will want to get his hands on this book. The author is a retired Army master sergeant and a well-known numismatist. In this book he expands on his previously published catalog titled U.S. AND ALLIED MILITARY TOKENS OF VIETNAM, 1959-1973 (which forms a large part of this book), including information on the hundreds of compounds that were homes to U.S. servicemen—locations and for whom and why they were named; official awards and decorations; unofficial military medals; propaganda leaflets; and club and mess associations.

Here are a number of our longer reviews:

MUD SOLDIERS: LIFE INSIDE THE NEW AMERICAN ARMY. By George C. Wilson (Scribner's, 1989. 276 Pages. $19.95). Reviewed by Major General Albert H. Smith, Jr., United States Army Retired.

The first chapter of this book gives the most complete, accurate, and vivid account of a rifle company battle in Vietnam that I have ever read. The unit was Company C, 2d Battalion, 16th Infantry; the battle took place in April 1966 when the company, then with only 134 men, took on the D-800 Vietcong battalion that fielded some 400 men.

When relief finally arrived after some 18 hours of desperate fighting, Company C could count only 28 unwounded or slightly wounded men. It had also earned the Army's Valorous Unit award the hard way.

The author, the military correspondent for the Washington *Post* newspaper, then jumps from Vietnam to July 1987 and Fort Benning. In his next six chapters he describes the challenges of basic and advanced individual training that faced 66 newly enlisted soldiers, a COHORT group that would become a part of the new Company C, then at Fort Riley, Kansas, still a part of the 1st Infantry Division and the 16th Infantry.

He spent a considerable amount of time with those new soldiers, and his description of the training is the next best thing to experiencing those very tough days. Unhappily, when the 66 soldiers did reach Fort Riley, they soon learned that soldiering there and at the National Training Center was different; it was mainly unexciting, even monotonous.

The author returned to Riley one year later to check on the 66 soldiers he had known at Benning. By then, 12 had been discharged or were about to be discharged for various reasons. The young married soldiers who were living in shabby trailer camps were especially disillusioned. And so the book's second and third segments reveal certain Army activities that can and should be improved. These areas certainly merit study, analysis, and corrective action.

Army authorities are sometimes overly sensitive to real or perceived criticism. Some even prefer not to tell it like it is. On the other hand, George Wilson insisted on interview after interview—check after check—to find and record the real world. His is a book well worth reading by all concerned with today's Army.

THE DEFENSE OF HILL 781. By James R. McDonough (Presidio, 1988. 202 Pages. $15.95). Reviewed by Captain Stephen A. Johnson, United States Army.

James McDonough, the author of the well-received book called PLATOON LEADER, has done an excellent job of producing a modern companion to the well-known tactical primer, THE DEFENCE OF DUFFER'S DRIFT.

McDonough's main character is a deceased airborne-to-the-core leader who had held everyone not airborne in arrogant contempt. But now, to pay for this sin, LTC Always finds himself in Purgatory—at the National Training Center (NTC), where he must successfully command a balanced task force of Bradley vehicles and Abrams tanks supported by engineers, artillery units, attack helicopters, and other organizations. His problem: He has always "made a career of avoiding what was known as 'heavy' forces. Showing a studied disdain for any soldier who depended on machines to transport themselves, he had thus avoided the headaches that came with meshing men and machines in the business of soldiering."

Always' learning process begins with a series of missions that are well known to those who have served time at the NTC—dawn attack, change of mission, defense in sector, deliberate attack, night attack, and battle position defense. The most important lesson is one that cannot be repeated often enough: "Ultimately, he (the leader) must recognize that his prime resource wears a human face and thereby apply the leadership that brings victory." The lessons learned, given at the end of each chapter, result from McDonough's three full rotations and ten other visits to the NTC.

The book is entertaining and has many valuable tactical lessons to offer to today's infantry leader. It is recommended reading for leaders at all levels.

LEE'S TARNISHED LIEUTENANT. By William Garrett Piston (University of Georgia Press, 1987. 252 Pages. $24.95). Reviewed by Major Don Rightmyer, United States Air Force.

Confederate General James Longstreet's boss for most of the Civil War, Robert E. Lee, referred to the South Carolinian with obvious admiration as the "Old War Horse." Longstreet came by that title honestly because of his loyal and

faithful service with the Army of Northern Virginia.

Serving as second-in-command of that army and being its First Corps commander as well, Longstreet played a vital role throughout the war in the eastern theater. Despite his obvious contributions to the Confederate war effort, Longstreet never received the popular acclaim that was given to other leaders such as Lee, "Stonewall" Jackson, "Jeb" Stuart, and A. P. Hill.

His low profile during the war led to notoriety and vilification after Lee's death in 1870 because of his political views and his willingness to work for the reconstruction of the nation. The author uses the last half of his book, in fact, to consider Longstreet's postwar life and his treatment at the hands of those who hoped to bolster Lee's reputation, as well as the South's, by blaming Longstreet for many of the mistakes that had been made during the war. He provides thorough, well-documented proof of many instances in which former Confederate leaders blatantly misrepresented the facts in order to place blame on Longstreet.

This is a worthwhile biography of a much-maligned American soldier. It also provides valuable insights on the way history can be and is distorted by those who report it.

AMERICA'S NATIONAL SECURITY: POLICY AND PROCESS. 3d Edition. By Amos A. Jordan, William J. Taylor, Jr., and Lawrence J. Korb (Johns Hopkins University Press, 1989. 636 Pages. $18.95, Softbound.

THE EAGLE'S TALONS: THE AMERICAN EXPERIENCE AT WAR. By Colonel Dennis M. Drew and Donald M. Snow (Air University Press, 1988. USGPO S/N 008-070-00619-7. 421 Pages. $16.00). Both books reviewed by Doctor Joe P. Dunn, Converse College.

These two excellent textbooks on national security are written for professionals in the field, but they are both invaluable for the informed layman. Both are highly recommended for the military professional.

America's National Security was first developed for use at the Military Academy, but it has become the classic textbook in the field, the standard by which other national security texts are evaluated. It treats the development and theory of national security study; structures of decision-making; contemporary issues such as nuclear strategies, limited war, low intensity conflict, economic challenges, and research and development of weapon systems; and approaches for the 1990s. One of the book's most valuable aspects is its extensive survey of the problems, threats, and potential developments in each of the world's regional areas.

The Eagle's Talons was written to provide a brief interpretative history of America's wars for students at the Air Force's professional schools at the Air University. The authors focus on the technological and political context in which the decisions of war occur and offer thoughtful assessments of the way our experience contributes to understanding national security concerns today. More readily accessible to the general reader than the first named volume, this book makes fine reading for the layman interested in these vital issues.

SIGNED WITH THEIR HONOR: AIR CHIVALRY DURING THE TWO WORLD WARS. By Piet Hein Meijering (Paragon House, 1988. 191 Pages. $18.95). Reviewed by Lieutenant Colonel Jack Mudie, United States Air Force Retired.

The author, a Dutch civil servant and language teacher with a life-long love of aviation, has written a slow-starting treatise on the origin and tradition of chivalry, maintaining that it was (or is) not strictly European in nature but rather associated with the "play-element which is fundamental to the notion of war as a noble game of honour."

The concept of chivalry in modern warfare—at least since the start of the 20th Century—has been limited to aviation, and more specifically to aerial combat between fighter-type aircraft in World War I. Meijering does include some instances of the much rarer occurrence of chivalry in World War II, and then only in the war with Germany. He avers that there were absolutely no known chivalrous actions by pilots of either side in the Pacific theaters of operation, which he attributes to the Japanese warrior's *bushido* code and the U.S. response to this no-quarter policy.

The pace of the book picks up appreciably when Meijering settles down to recounting actual incidents of chivalry, most commonly when an obvious easy kill of a worthy opponent out of ammunition or with malfunctioning machineguns was permitted to fly another day.

It is the unchivalrous incidents that are the most surprising and memorable parts of the book—the acceptance by both RAF and Luftwaffe pilots, for example, that a pilot bailing out over his own territory was fair game in his parachute while a pilot bailing out to an obvious prisoner-of-war status was not. (USAAF bomber crews who were advised to free fall as far as possible may be understandably incredulous of that "acceptance.")

The author's strongest point is his use of primary sources, but he wisely concludes that we should not let our enthusiasm for the ideal of chivalry mislead us into thinking that mortal combat is a "game" as it is unlikely that we will ever see a rebirth of chivalry in war. Military men will find this book to be interesting, and possibly even inspirational.

IF YOU SURVIVE. By George Wilson (Ballantine, 1987. 276 Pages. $3.50, Softbound). Reviewed by Major David V. Hines, United States Army.

This is a book about surviving on a battlefield while serving as an officer in a rifle company in combat. The author, who served as a platoon leader and company commander with Company E, 2d Battalion, 22d Infantry, 4th Infantry Division in Europe during World War II, was in the front lines almost continuously from July 1944 to the end of the war. He was wounded three times, but never seriously, and earned three Purple Hearts, two Bronze Stars, and a Silver Star. He was recommended for but never received the Distinguished Service Cross.

The author offers a number of important battlefield lessons he learned during his months of combat, and these alone are worth the cost of the book. In addition, the book is one that all infantrymen should enjoy reading.

TO HELL AND BACK. By Audie Murphy (TAB Books, Inc., Blue Ridge Summit, PA 17294-0850. 1988. 274 Pages. $14.95). Reviewed by Ralph W. Widener, Jr.

The publisher advertises this book as the first in its Military Classics Series, quality reprints in hard covers "of many of the most famous books by or about key figures in U.S. military history."

This book, first released in 1949, is the story of one of the great infantrymen of World War II. That edition had no pictures or any biographical information about Audie Murphy other than what appeared in the narrative. This reprint has both, and it belongs in every infantryman's library.

ARMS AND JUDGMENT: LAW, MORALITY, AND THE CONDUCT OF WAR IN THE TWENTIETH CENTURY. By Sheldon M. Cohen (Westview Press, 1989. 226 Pages. $38.50). Reviewed by Lieutenant Colonel John C. Spence III, United States Army Reserve.

The central theme of this book is how the use of military force can be justified under international law. The author, who teaches philosophy at the University of Tennessee, makes an important contribution to the understanding of the morality of modern conflict. The publisher has previously offered outstanding works on the same subject such as Malham Wakin's *War, Morality, and the Military Profession.*

In fact, Cohen draws substantially from Wakin's book as well as from Michael Walzer's *Just and Unjust Wars* in his own analysis. Although he writes from a philosopher's perspective, he exhibits a solid grasp of the somewhat complex rules contained in the Law of War.

His approach is realistic, and he clearly states why some forms of pacifism are misguided. He says, "People sometimes have the right to defend themselves and others with deadly force. Under certain conditions they may have a moral right to do so."

Specifically, Cohen demonstrates when military necessity may justify the intentional destruction of enemy property. On the other hand, he clearly states that under no circumstances may captured enemy prisoners of war be killed. For example, if a patrol captures an enemy soldier, it must either make arrangements for the prisoner's safe custody or for his disarmed release. Then the patrol may proceed on its original mission.

Throughout his book, Cohen argues that what may be legal in combat may not necessarily be moral, and that what may be moral may not be legal. He also describes the constraints under which guerrilla and unconventional forces must operate in order to comply with the Law of War. He carefully distinguishes between the guerrilla fighter and the terrorist; the terrorist knows no moral limitations in warfare. Almost always, innocent civilians are the targets of terrorists.

Both the lay reader and the military professional will find the discussion of issues in the book to be stimulating. There is a diverse and varied selection of related works in an extensive bibliography.

RECENT AND RECOMMENDED

KING OF THE KILLING ZONE: THE STORY OF THE M-1 TANK. By Orr Kelly. Norton, 1989. 288 Pages. $18.95.

THE CAUSES OF WAR. By Geoffrey Blainey. Third Edition. The Free Press, 1988. 325 Pages.

THE VIOLENT DECADE: A FOREIGN CORRESPONDENT IN EUROPE AND THE MIDDLE EAST, 1935-1945. By Frank Gervasi. W. W. Norton, 1989. 629 Pages. $25.00.

THE ALTRUISTIC PERSONALITY: RESCUERS OF JEWS IN NAZI EUROPE. By Samuel P. Oliner and Pearl M. Oliner. The Free Press, 1988. 419 Pages. $24.95.

CLOAK AND GOWN: SCHOLARS IN THE SECRET WAR, 1939-1961. By Robin W. Winks. A Quill Book. William Morrow, 1987. 607 Pages. $14.95, Softbound.

THE U.S.-KOREAN SECURITY RELATIONSHIP: PROSPECTS AND CHALLENGES FOR THE 1990s. By Harold C. Hinton, *et.al.* Pergamon Press, 1988. 106 Pages. $9.95, Softbound.

THE IRANIAN TRIANGLE: THE UNTOLD STORY OF ISRAEL'S ROLE IN THE IRAN-CONTRA AFFAIR. By Samuel Segev. The Free Press, 1988. 340 Pages. $22.50.

UNIT 731: JAPAN'S SECRET BIOLOGICAL WARFARE IN WORLD WAR II. By Peter Williams and David Wallace. The Free Press, 1989. 303 Pages. $22.95.

THE WORLD FACTBOOK, 1988. Produced annually by the Directorate of Intelligence of the Central Intelligence Agency. For sale by the Superintendent of Documents, U.S. Government Printing Office. 300 Pages, Softbound.

STRESS, STRAIN, AND VIETNAM: AN ANNOTATED BIBLIOGRAPHY OF TWO DECADES OF PSYCHIATRIC AND SOCIAL SCIENCES LITERATURE REFLECTING THE EFFECT OF THE WAR ON THE AMERICAN SOLDIER. By Norman M. Camp, Robert

M. Stretch, and William C. Marshall. Bibliographies and Indexes in Military Studies Number 1. Greenwood Press, 1988. 316 Pages.

NATIONAL SECURITY STRATEGY OF THE UNITED STATES. By Ronald Reagan. Pergamon-Brassey's, 1988. 114 Pages. $9.95, Softbound.

MILITARY CLASSICS. By Robert H. Berlin. Historical Bibliography Number 8, Combat Studies Institute, U.S. Army Command and General Staff College, 1988. 71 Pages, Softbound.

WHO SERVES? THE PERSISTENT MYTH OF THE UNDERCLASS ARMY. By Sue E. Berryman. Westview Press, 1988. 127 Pages. $20.00, Softbound.

THE GRENADA DOCUMENTS: WINDOW ON TOTALITARIANISM. By Nicholas Dujmovic. Pergamon-Brassey's, 1988. 94 Pages. $9.95, Softbound.

UPA: THEY FOUGHT HITLER AND STALIN. By Petro R. Sodol. UPA Committee (PO Box 304, Cooper Station, New York, NY 10276), 1987. 128 Pages. $12.00.

ON THE WRONG SIDE: MY LIFE IN THE KGB. By Stanislav Levchenko. Pergamon-Brassey's, 1988. 244 Pages. $18.95.

THE STRATEGY OF SOVIET IMPERIALISM: EXPANSION IN EURASIA. By Martin Sicker. Praeger, 1988. 192 Pages $37.95.

COMPARING FOREIGN INTELLIGENCE: THE U.S., THE USSR, THE U.K., AND THE THIRD WORLD. Edited by Roy Godson. Pergamon-Brassey's, 1988. 157 Pages. $17.95.

PEACE, POLITICS, AND ECONOMICS IN ASIA: THE CHALLENGE TO COOPERATE. Edited by Robert A. Scalapino and Masataka Kosaka. Pergamon-Brassey's, 1988. 209 Pages. $30.00.

BRITISH SUBMARINES IN WORLD WAR TWO. By Paul J. Kemp. Warships Illustrated 11. Sterling, 1987. 64 Pages. $9.95.

THE MODERN MERCENARY: DOG OF WAR OR SOLDIER OF HONOUR? By Peter Tickler. Sterling, 1987. 224 Pages. $24.95.

KNIGHTS OF THE BLACK CROSS: HITLER'S PANZERWAFFE AND ITS LEADERS. By Bryan Perrett. St. Martin's, 1986. 266 Pages. $17.95.

COMBATING THE TERRORISTS: DEMOCRATIC RESPONSES TO POLITICAL VIOLENCE. Edited by H. H. Tucker. Facts on File, 1988. 256 Pages. $24.95.

THE LONGEST BATTLE: THE WAR AT SEA, 1939-1945. By Richard Hough. William Morrow, 1988. 371 Pages. $7.95, Softbound.

AMERICAN ESPIONAGE AND THE SOVIET TARGET. By Jeffrey Richelson. William Morrow, 1988. 383 Pages. $8.95, Softbound.

CENTENNIAL CAMPAIGN: THE SIOUX WAR OF 1876. By John S. Gray. A reprint of the 1976 edition. University of Oklahoma Press, 1988. 408 Pages. $14.95, Softbound.

MAKE ME A MAP OF THE VALLEY. By Jedediah Hotchkiss. First printed in 1973. Southern Methodist University Press, 1988. 352 Pages. $12.95, Softbound.

FORT SMITH: LITTLE GIBRALTAR ON THE ARKANSAS. Second Edition by Edwin C. Bearss and Arrell M. Gibson. First printed in 1979. University of Oklahoma Press, 1988. 362 Pages. $10.95, Softbound.

A NUCLEAR-WEAPON-FREE ZONE IN THE MIDDLE EAST: PROBLEMS AND PROSPECTS. By Mahmoud Karem. Contributions in Military Studies Number 65. Greenwood Press, 1988. 200 Pages. $39.95.

CONVENTIONAL ARMS CONTROL AND THE SECURITY OF EUROPE. Edited by Uwe Nerlich and James A. Thomson. Westview Press, 1988. 251 Pages. $19.85, Softbound.

SIMPSON SPEAKS ON HISTORY. By Colonel Harold B. Simpson. Hill College Press (Hillsboro, TX 76645), 1986. 124 Pages. $12.00.

WORLD MILITARY EXPENDITURES AND ARMS TRANSFERS, 1987. Edited by Daniel Gallik. U.S. Arms Control and Disarmament Agency Publication Number 128, 1988. USGPO S/N 002-000-00094-6. 156 Pages. $8.00, Softbound.

BEHIND A CURTAIN OF SILENCE: JAPANESE IN SOVIET CUSTODY, 1945-1956. By William F. Nimmo. Greenwood Press, 1988. 168 Pages. $37.95.

AN ILLUSTRATED GUIDE TO STRATEGIC WEAPONS. By Max Walmer. An Arco Military Book. Prentice Hall, 1988. 188 Pages. $10.95.

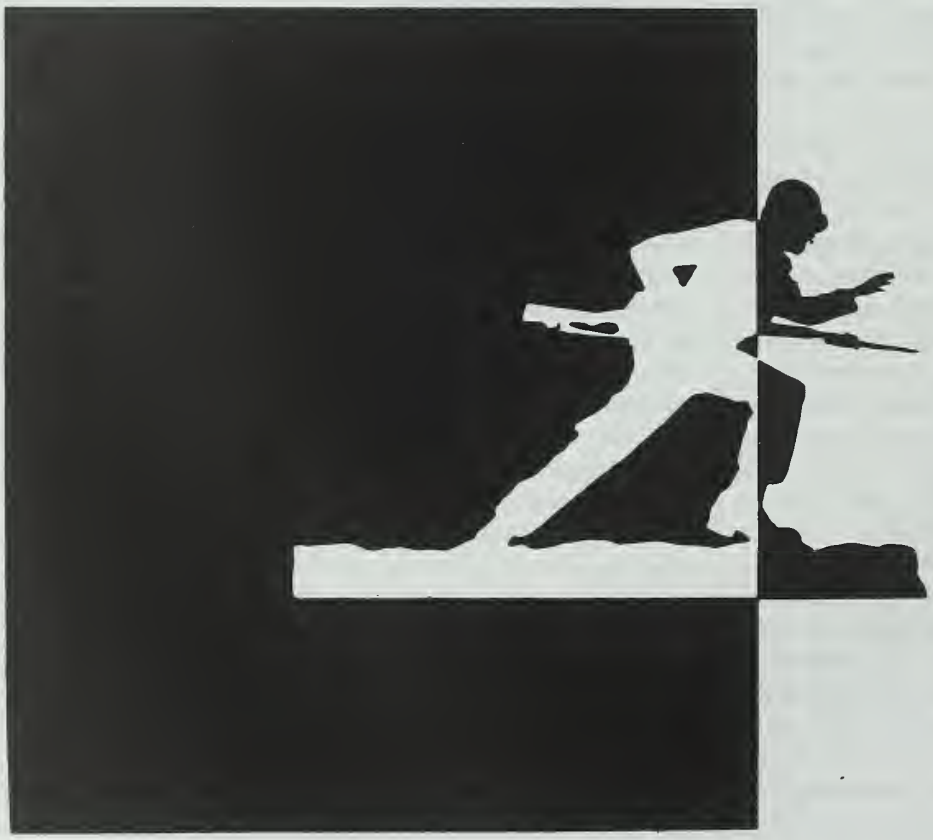
FIGHTER: FROM WOOD AND CANVAS TO SUPERSONIC FLIGHT. By John Batchelor and Chris Chant. Sterling, 1988. 160 Pages. $19.95.

AIR WAR HANOI. By Robert E. Dorr. Sterling, 1988. 190 Pages. $24.95.

THE AIRGUN BOOK. By John Walter. Fourth Edition. Sterling, 1987. 160 Pages. $29.95.

AIRCRAFT OF THE VIETNAM WAR. By Bill Gunston. Sterling, 1987. 136 Pages. $7.95, Softbound.

THE LEWIS GUN. By J. David Truby. Second Edition. Paladin Press, 1988. 202 Pages. $25.00.



From The Editor

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